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JULY 23
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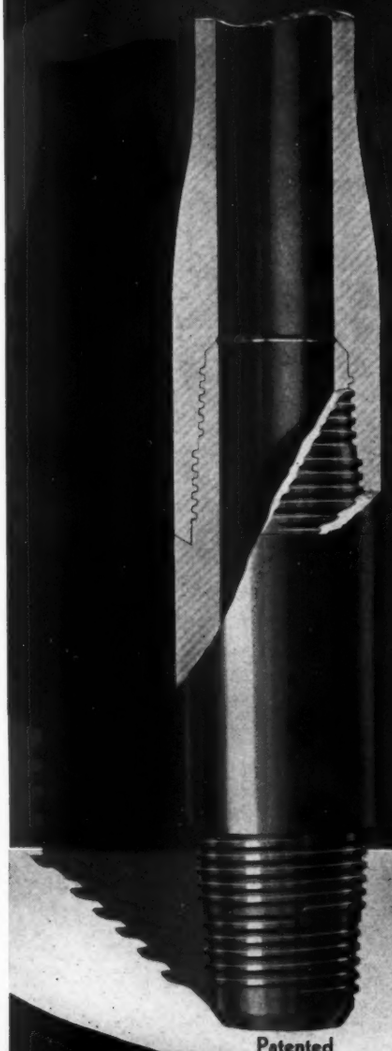

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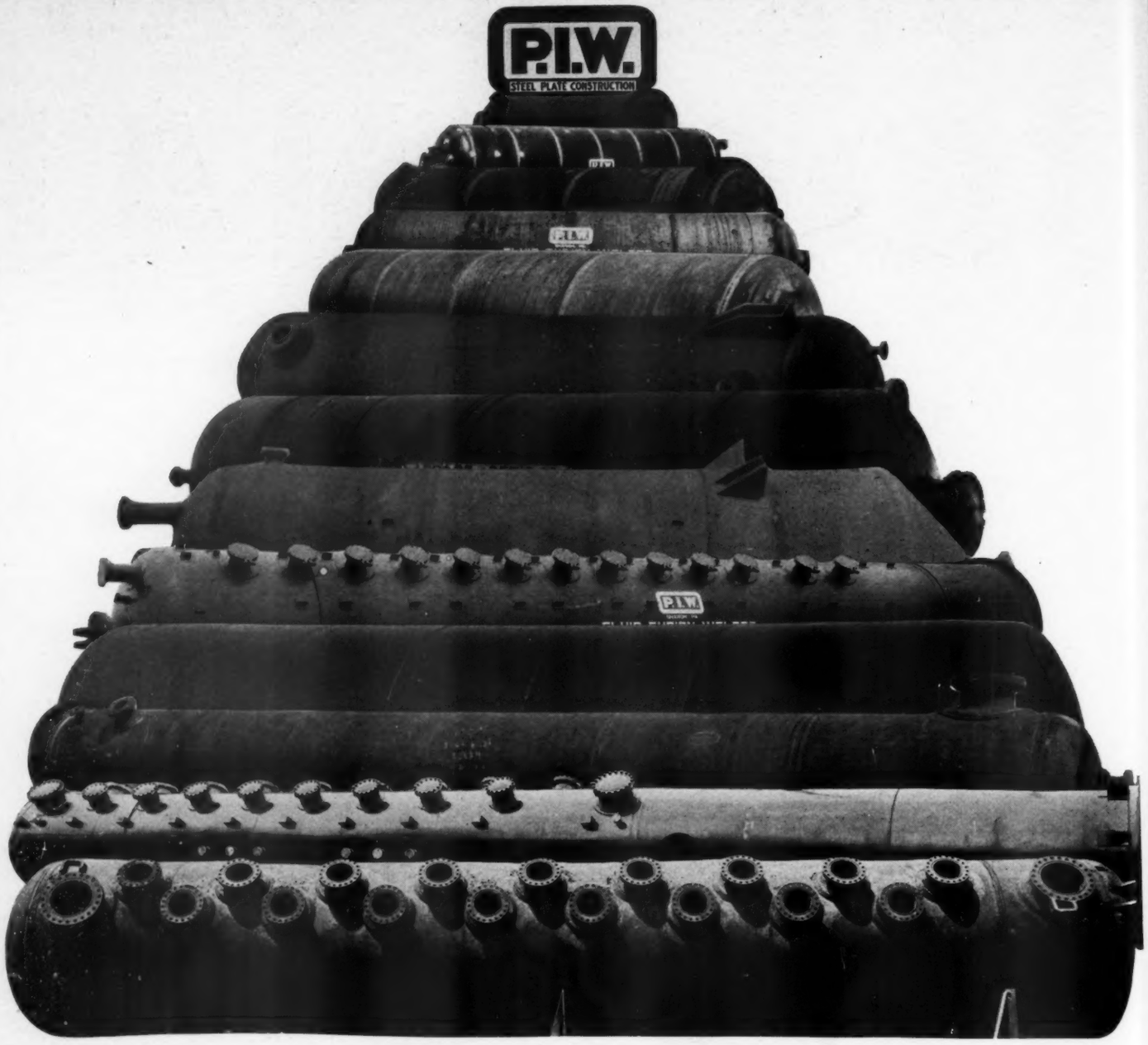

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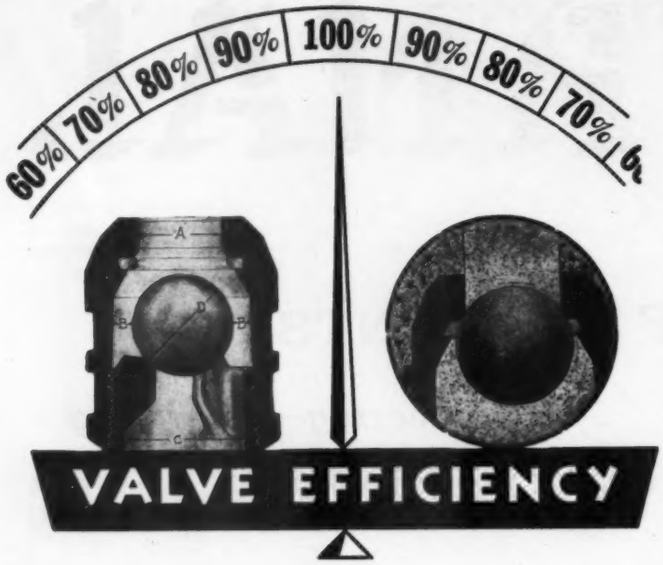
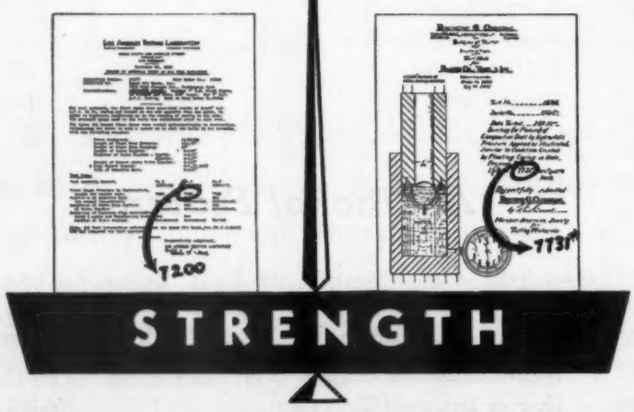
Use this Scale TO WEIGH THE SAFETY, EFFICIENCY AND TOTAL COSTS OF EQUIPMENT *for Guiding, Floating and Cementing* STRINGS OF CASING





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BAKER CEMENT EQUIPMENT

Withdrawal From Crude Stocks Lags

CRUDE oil production in the United States is again nearing the 3,000,000-barrel daily figure, with gains for the past two weeks totaling approximately 90,000 barrels daily. The increase for the past week of 31,884 barrels is accounted for by gains in Kansas, Oklahoma and Texas. Kansas, which earlier in the month was producing less than the recommendation of the Bureau of Mines and less than the state allowable, jumped its production 16,475 barrels daily due largely to new wells.

The daily average production of 2,981,000 barrels for the entire country is 64,000 barrels greater than the government's recommendation. The government schedule provides for a reduction of stocks of more than 100,000 barrels daily, which indicates that the present actual production still assures a small withdrawal from crude inventories.

Considerable interest is being manifested in the probable August operations. The Bureau of Mines in its monthly forecast last week maintained its usual conservative position and recommended that August production be only 19,700 barrels greater than in July. The bureau stressed the desirability of taking advantage of the largest consuming month of the year to reduce stocks. Its August schedule provides for a 3,487,000-barrel withdrawal from crude stocks and a 5,000,000-barrel cut in the heavy gasoline stocks. The bureau explains that with the end of August gasoline demand will drop rapidly and points out it is desirable that the industry also prepare for that assured development. It appears certain that state commissions and a majority of the operators will agree with the government's recommendations for next month.

Production 2,981,343
Increase 31,884

In Texas last week there was a revival of the agitation to increase allowables in certain fields. It is contended by the proponents of this move that the existing proration program is unfair to many Texas operators in that the production per well is not equitably allocated within the state. The fact that production per well is much larger in some of the fields of adjoining states is also pointed to as indicating the unfavorable position of Texas operators. A majority of the Railroad Commission do not favor this viewpoint. While acknowledging certain weaknesses in the present proration plan they also recognize the part that it has played in bringing about better conditions in Texas and the oil industry generally.

The 10-cent reduction in Elk Basin and Grass Creek crudes in Wyoming made effective by buyers on July 20 effects two small fields and is not considered of general significance. It was brought about by competitive conditions applying to fields in Wyoming.

While stocks have not been reduced as rapidly as many hoped for in early July, gasoline prices continue firm.

Daily Average Production for Week

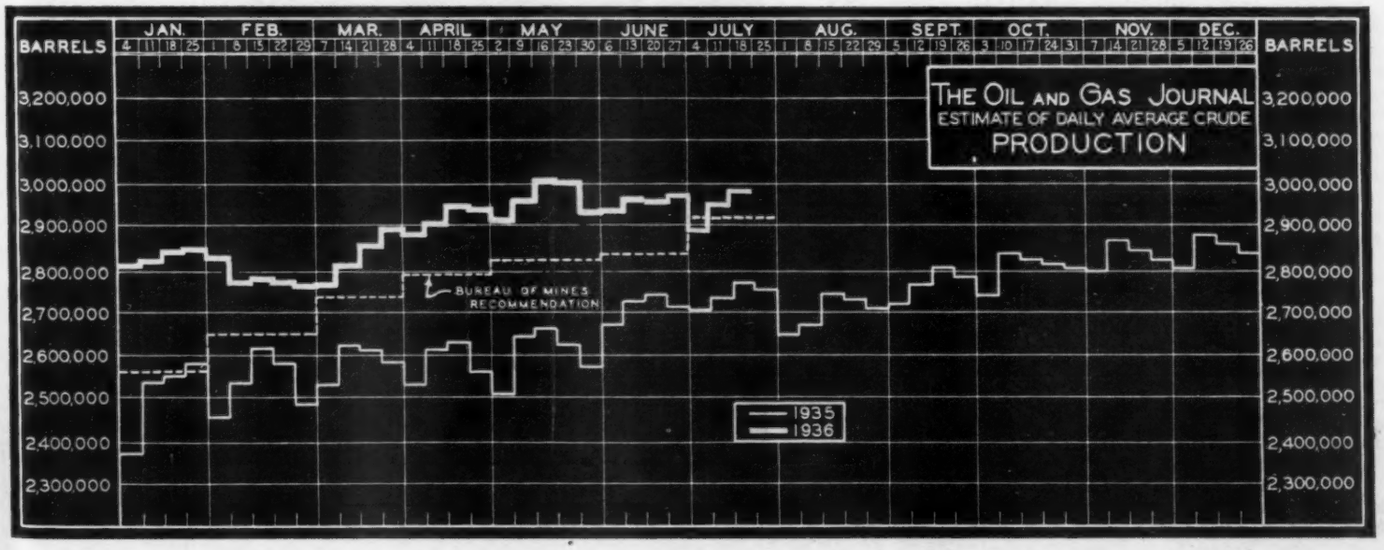
	July 18, 1936	Bur. Mines July est.	July state allowable	July 11, 1936
Oklahoma City	149,950			145,750
Seminole-St. Louis	99,975			95,375
Remainder of State	309,450			305,400
Total Oklahoma	559,175	569,800	526,175	546,525
East Texas	431,750			431,257
West Texas	178,747			182,896
North Central Texas	85,593			84,350
Texas Panhandle	61,947			58,187
East Central Texas	55,887			54,537
Gulf Coast Texas	249,642			247,552
Southwest Texas	84,683			84,000
Total State of Texas	1,148,249	1,146,500	1,127,850	1,142,779
North Louisiana	80,020			79,780
Gulf Coast Louisiana	148,339			150,745
Total Louisiana	228,359	186,800	224,900	230,525
Santa Fe Springs	44,700			44,400
Long Beach	67,100			67,500
Kettleman Hills	78,250			77,200
Remainder of State	394,750			397,000
Total California	584,800	550,800	*544,000	586,100
Kansas	161,250	164,200	151,629	144,775
Arkansas	29,675	31,300		29,575
Eastern Fields	110,000	107,700		110,250
Michigan	32,425	33,800		31,000
Southeastern New Mexico	69,960	68,400	73,055	69,970
Rocky Mountain area	57,450	57,900		57,960
Total United States	2,981,343	2,917,200		2,949,459

*Recommendation of Central Committee of California Oil Operators.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATE)

Week ending July 4, 1936	311,360,000
Week ending June 27, 1936	310,618,000
Week ending July 6, 1935	333,239,000



SPARKS FROM THE NEWS

Political Peril

Proration is facing two spacing problems, one dealing with proper well locations and the other with wider spacing of election days. Recent Austin hearing indicates latter is the more important.

No Hard Feelings

Bureau of Mines announces survey of crude in storage to determine its marketable contents. It might be said that the investigators will be influenced by sediment.

No Sleep in the Deep

Geophysicists report six oil fields will be found under waters of Galveston Bay. Between dodging bits and bait, it looks like tough going for Gulf Coast fish in the future.

Recommendation

Bureau of Mines recommendation for August indicates demand for crude in United States of better than 3,150,000 bbls. daily. It wisely suggests 125,000 bbls. be taken from storage.

Records

Automobile manufacturers now estimate 1936 output at 4,600,000. These 1936 units will consume more gasoline than did the cars of the 1929 peak.

Go West

Greeley's advice of "Go West, Young Man" is being followed by the Kansas wildcatters.

Bad News

Movement away from retail station operations by oil companies gains momentum. Bad news to owners of few remaining corner lots.

Pocketical License

East Texas hot oil has dropped below 11,000 bbls. daily according to reliable reports. With 21,013 wells completed, hip-flasks can soon be used to transport the excess.

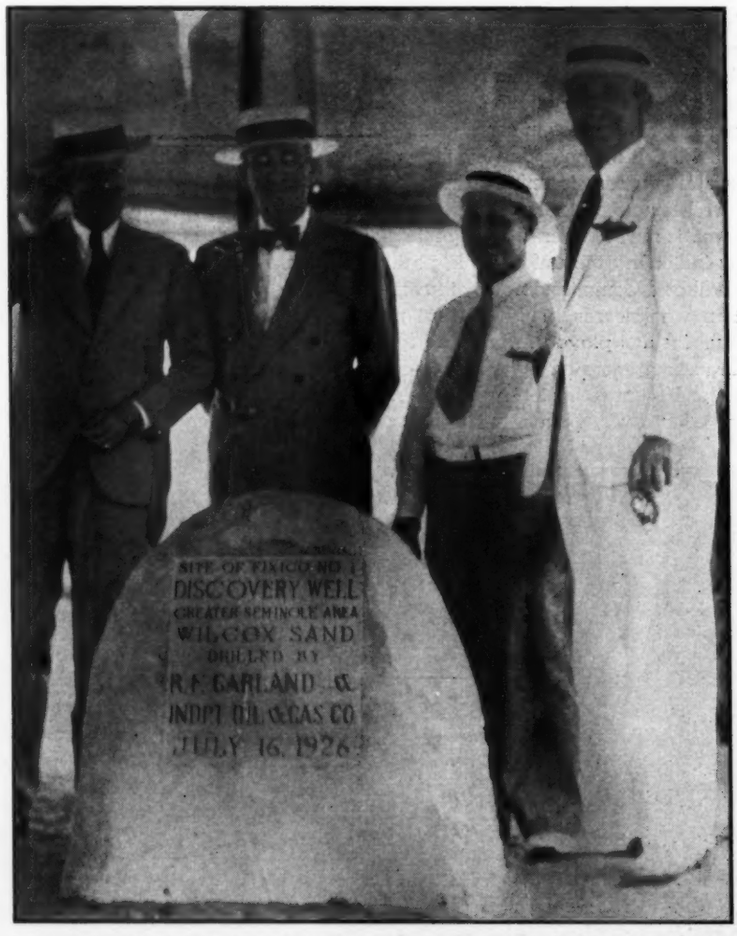
Modern Frontiersmen

Eastern Colorado will soon experience extensive wildcatting program. Large blocks have been accumulated by major operators and are due for testing. The search for future reserves goes on.

Fickle Fahrenheit

The reported purchase by Tide Water of Pelican Oil and Gas Co.'s famous Sexton lease in Rodessa will eliminate oil industry's chief conversational topic. Which leaves only the original subject, and Mark Twain covered that.

SITESEEING



Left to right: John H. Kane, Frank Phillips, Leon J. Pratt, superintendent, Phillips Petroleum Co., (with Independent Oil & Gas Co. when No. 1 Fixico was drilled) and R. F. Garland, co-owner of Wilcox sand discovery well at Seminole, Oklahoma

DAWES

MORAN

IRISH

Stations Going Into Dealers' Hands Fast

By T. F. SMILEY

The practice of leasing company-owned service stations to independent dealers has gained fairly astonishing momentum, a survey conducted in the past week by The Oil and Gas Journal reveals. Although the plan was adopted in a small experimental way by some companies several years ago, it was resorted to under the whip of necessity in Iowa when that state's confiscatory chain-store law went into effect June 30, 1935. Turned to then as a means of saving their business from ruin, it has worked out so well that it is fast becoming a definite policy of many large integrated organizations in all marketing areas, without regard to tax legislation. The change has been effected so quietly that relatively few persons have realized its sweeping character or its implications with reference to marketing methods of the future.

Contracts made under the so-called Iowa plan surrender to the lessee of a station entire control of retail prices and impose no condition requiring that the lessor's products shall be handled. Most companies use a modification of the Iowa plan outside that state, retaining control over pump prices and stipulating that their products shall be handled. It is believed to be within the facts to say that the clear trend is toward eventual adoption generally of the unqualified Iowa plan everywhere.

The Standard Oil Co. (Indiana), looked upon as the key marketing organization in Iowa, is credited with having been the pioneer in establishing the Iowa plan. Other companies with retail outlets in that state, adopted policies virtually the same. A statement given out by the Indiana Standard in the past week says that company is rapidly completing the leasing out of its company-operated service stations, cancellation of authorized agent's agreements and conversion of all outlets, over which it had any control, to the dealer basis of operation.

The company announces it is changing its contracts with dealers so that the retail prices will be determined and set by the individual dealers handling its products, the company taking no hand in determining the prices at which such dealers shall sell.

Contracts which Standard of Indiana is writing with all dealers eliminate all reference to posted service-station prices, and establish a posted dealer price basis for transactions between the company and the dealer.

While the change in the contracts is being completed, the company is necessarily posting both a dealer price and a service-station price in many localities. When all contracts have been rewritten in any given state, the company will abandon the practice of posting service-station prices in that state and will post only its prices to dealers. The company says it believes this policy will prove to be fair to the dealer and the public, and that competitive conditions will permit its permanence.

In contrast with the practice of most other companies, the Standard of Indiana has nothing in its contracts, outside of Iowa as well as in that state, which requires the lessee to handle its products or which establishes any control over retail prices.

Transfer of company-operated service stations to dealer operation is now being effected by the Standard Oil Co. of New Jersey and its Esso Marketers affiliates, which include the Standard Oil Companies of Louisiana and Pennsylvania and the Colonial Beacon Oil Co., an official statement says. Some 2,500 retail outlets will be in the hands of dealers on lease when the transfer is completed, and the ultimate effect will be to remove the Esso Marketers from retail operation.

"First of the two primary factors actuating this move," says the Standard of New Jersey statement, "is the present desire of the Esso Marketers to leave the retail field entirely to independent dealers. Second, is the difficulty of continuing profitable retail operation under the many substantial and petty taxes to be paid, one of the most burdensome being the chain-store taxes already in effect in some states and anticipated in others."

As the company discontinues retail operation in various areas it will cease posting service-station prices. It is expected that the dealers will base the price of gasoline at their own stations upon the tank-wagon price plus a margin which each dealer deems necessary to carry on business.

In leasing their stations, the Esso Marketers have endeavored as far as possible to give their employees who have been managing these stations on a salary or commission basis, the opportunity of going into business on their own, and many such former employees have taken advantage of this opportunity.

The Continental Oil Co. has changed all its 1,276 company-operated filling stations to the dealer-operated type.

The Atlantic Refining Co., according to W. M. Irish, president, expects to have a majority of its company-owned stations leased to dealers in the near future.

The Pure Oil Co. a number of years ago started leasing retail stations to dealers, and in the past two years, Henry M. Dawes, president, says, it has developed that policy to such an extent that almost all of its stations now are operated on a dealer basis.

The Marathon Oil Co. has carried out a leasing policy so thoroughly that today the company itself is operating only two of its stations, one in Tulsa and one in Fort Worth, Tex. When the NRA code went into effect in 1933 Marathon began leasing stations where it found it could do so under favorable conditions. After the Iowa chain-store tax law became effective the company leased all its stations in that state and it began leasing those in other areas as fast as it could do so.

Approximately 95 per cent of the Mid-Continent Petroleum Corp.'s stations are now in the hands of dealers, R. W. McDowell, vice president in charge of sales, said. Foreseeing conditions that lay ahead in the marketing field, Mid-Continent began transferring its stations to dealers several years ago. By 1934 about 50 per cent of its stations had been leased. The company uses a modified form of the Iowa plan outside that state, but expects to see virtually uniform contracts in force everywhere in the course of time.

The Barnsdall Oil Co. has steadily been increasing the number of its leased stations throughout the past two years, George D. Locke, vice president, said. Virtually all its stations in Iowa are operated by dealers, and almost the same situation prevails in Oklahoma. Taking its stations as a whole, about 85 per cent are now dealer-operated, and its plans contemplate having no company-operated stations whatever eventually.

The Phillips Petroleum Co. began leasing its stations more than a year ago, and it has carried

out this policy with such vigor that at the present time, according to H. A. Trower, vice president in charge of sales, only a half-dozen or so stations are retained by the company, and these are regarded pretty much as training schools for workers.

The Texas Co. was among the first to decide that the retail marketing of petroleum products is handled best by an independent merchant who resides in the community and has personal ties and contacts with the neighborhood. "For many years," W. S. S. Rodgers, president, said, "the Texas Co. has leased its service stations to individuals and has built up a nation-wide organization on this basis. These dealers have a common interest in the sale of uniformly trade-marked products."

The Skelly Oil Co. still operates some of its stations in Iowa and probably will continue to do so throughout the Standard of Indiana territory, W. T. Atkins, vice president in charge of marketing, said.

W. T. Holliday, president of the Standard Oil Co. of Ohio, said his company had leased many stations, but not in pursuance of any general policy in that direction. There was nothing, he said, to indicate the company would depart from its course of determining the method of operating each individual station on its own merits.

The Sun Oil Co. is materially reducing the number of its company-operated stations, S. B. Eckert, vice president, said, adding, however, that the company was not in a position to announce a definite policy.

On the West Coast the Iowa plan has not yet stirred the interest which it has aroused east of the Rocky Mountains. The Standard Oil Co. of California has no plans for altering its present operating policies. S. Belither, president of the Shell Oil Co., said his organization had not decided on any definite policy in connection with the leasing of retail stations, and its future plans would be governed by marketing conditions. Proposed chain-store tax legislation to be voted on in California next November specifically exempts service stations.

Texas August Allowable Order Is Postponed by Commission

AUSTIN, Tex., July 21.—The Texas Railroad Commission at its weekly sitting Tuesday postponed issuance of its August oil allowable order. It set for August 5 at Jefferson hearing on the Rodessa field, inviting Louisiana officials to sit in and put into effect a temporary 20-acre well spacing rule for the Rodessa field.

At Thursday's statewide oil hearing in Austin, Commissioner Lon A. Smith, terming the proration hearings "a farce," charged the allowable figures were prepared in advance of hearings. Independents, he said, were being crushed and forced to sell because of low well allowables.

Both independents and representatives of the major companies present replied to Mr. Smith and declared their confidence in the commission.

Commissioner C. V. Terrell, third member, in a speech the same day, declared his cooperation with Chairman Ernest O. Thompson.

Oil purchasers filed nominations for 1,181,314 bbls. daily next month; while gas nominations were for 1,481,446,000 feet daily, of which 607,417,000 feet of sweet gas and 556,000,000 feet of sour gas was sought from the Panhandle.

There was no attack on the July factor of 2.32 per cent of one hour's potential for the daily well output of Texas.

Chairman Thompson postponed a hearing on the Rodessa field, on notice that Louisiana officials could not be present, but would sit in later to discuss similar orders for both states.

The Texas commissioners later will attend a hearing conducted by the Louisiana group, headed by Dr. J. A. Shaw, director of the mineral division of the Louisiana commission.

"I feel that Louisiana and Texas will cooperate in prorating the Rodessa field in a satisfactory manner," Mr. Thompson said.

V. E. Cottingham, commission engineer, recommended continuation of the present rate of about 432,000 bbls. daily under the 2.32 per cent potential of East Texas. Mr. Cottingham said bottomhole pressure was 1,180.21 pounds, a drop of 2.23 pounds between June 12 and July 12, during which the field allowable production was 12,963,504 bbls.

E. A. Landreth said: "If East Texas was increased 250,000 bbls. or more, the oil would have to be taken from other fields, as we are now producing all the market will absorb. As an independent, I think we are on the verge of prosperity and we should stick together and maintain the efficient program the commission has so ably started."

Charles I. Francis, representing United Gas Co., protested that waste has appeared in the Louisiana side of the Rodessa field, and threatens to spread to Texas. He urged the Texas commission to adopt rules at once. Ex-Governor Dan Moody, Pat Swearingen, Marion Church, Senator Frank Rawlins and others urged an immediate hearing or temporary rules to save the situation until the spacing limits could be fixed. Mr. Francis asserted with a drop of 700 pounds pressure in one section of the Louisiana field and heavy pressure losses in other areas, there is a tremendous waste of a highly valuable natural resource which demands vigorous action. He said escapage of gas out of solution means a huge wastage of oil, and should be stopped now and prevented in the future. He was inclined to favor a 40-acre spacing rule, but Chairman Thompson refused to discuss the merits of the case pending the presence of the Louisiana commission or an opportunity for them to be present.

County Judge Joe McCasland of Marion County favored 10-acre spacing rules and declared unless they are granted Texas land and royalty owners will suffer immense losses to Louisiana. He vigorously opposed 20-acre spacing. R. E. Hardwicke favored 20-acre spacing limits and declared operators should not be forced to drill two expensive wells when one well would produce all the oil and gasoline needed.

Senator Joe Hill of Henderson inquired, "What would be the price of gasoline if East Texas had been held to 20 acres?"

"I do not know," replied Hardwicke, "but you are keeping up the price of gasoline by spending $150,000,000 in drilling unnecessary wells."

Mr. Landreth favored 40-acre spacing, warning that overproduction is inevitable and at the present ratio there will be 25,000 new wells in Texas this year. The point was repeatedly made larger spacing units could always be reduced, but smaller units never could be enlarged, so the larger sized should be tried first. He said that he had been getting 61 cents for his oil in West Texas but that he is entitled to a much better price and instead of receiving it he will get less if this intensive drilling keeps up.

After prolonged discussion, operators and the commission agreed on a temporary 20-acre spacing rule for the Rodessa field to be promulgated immediately and intended to maintain the status quo until permanent rules could be adopted.

Tail Gas Dispute

CALGARY, Alberta, July 18.—A judgment handed down by the Alberta Appeal Court holds that Northwest Co., subsidiary of Imperial Oil, Ltd., is entitled to the tail gas from Meriand Oil Co. No. 1 in South Turner Valley, under an agreement made for completion of the well. A similar judgment by Mr. Justice Ford was appealed by Gas & Oil Products, Ltd., which under a more recent contract claimed the right to use the surplus tail gas in its absorption plant.

J. R. Schmitt New Treasurer of the Alliance Oil Corp.

John R. Schmitt, for 16 years connected with Tide Water Oil Co., in wholesale, export and industrial divisions, has been made treasurer of

—Converse Studios, Inc.

J. R. SCHMITT

Alliance Oil Corp., of New York. Mr. Schmitt has devoted his time to Alliance corporation activities since June, but his appointment as treasurer became effective July 1. At the same time, the Alliance corporation announced that Fred R. Allnutt of London has retired from Clarendon Petroleum Co., Ltd., English subsidiary of Tide Water, to become managing director of European operations for Alliance. The Alliance corporation, organized by L. C. Quackenbush, formerly sales manager for Tide Water, is dealing exclusively in exportation of petroleum and oil products. The company has marketing facilities in England, Belgium, France and Germany.

Madison Investigation Will Be Continued, Cummings Says

Attorney General Cummings in Washington, D. C., last week denied the grand jury investigation of oil marketing practices at Madison, Wis., by the Department of Justice, was not making satisfactory progress. It had been reported the investigation under way since early May, would shortly be ended.

Approximately 100 witnesses have been examined by the grand jury at Madison including representatives of oil companies, associations and the trade press. The investigation centers around marketing practices of refining and market organizations operating in the Middle West and Southwest. The investigation followed charges by the National Oil Marketers Association that agreements were being carried out in violation of federal antitrust acts.

The only indictment returned so far in connection with the oil investigation involved alleged perjured testimony of William A. Tracy, in charge of bulk sales of the Southwestern Division of the Sinclair Refining Co., with headquarters in Fort Worth, Tex. The indictments against Tracy were based on his testimony before the grand jury having to do with an alleged buying program in the Mid-Continent.

Big Wells Do Not Necessarily Mean Big Oil Reserves

By L. G. E. BIGNELL

Very large wells do not necessarily indicate the opening of large oil reserves or big oil fields. Four wells of unusual size have been completed in the Moore and Crescent fields in Oklahoma within the past six weeks but they have not added to the producing areas of these fields only a little more than 250 acres in the Crescent pool and about 400 acres in the Moore field. These wells were of large size because the producing formation is under high pressure and modern completion methods have been used in drilling the holes into the producing horizon. In each case the producing formation is the lower or second Wilcox sand of Ordovician age, one of the productive members in the Oklahoma City field which lies between these two pools.

The Moore field, Oklahoma City field, Britton pool, Edmonds field, Crescent field, Lovell and Marshall pools and the Garber deep production all lie along a major fault that extends from a point south of the Moore field to the northern part of Oklahoma. All of the fields named are located over the Granite Ridge, an extension of the old Nemaha Mountains which have been traced to Nebraska. These old buried mountains extend across Kansas from north to south in the eastern part of that state and over this structural mass lie many of the big fields of Kansas.

All of the fields in Oklahoma along this fault zone lie to the west of the fault excepting the Crescent pool which has found the producing formations on the east side of the fault. There may be oil on the west side of the fault in the Crescent field for a gas well on that side of the fault has recently made as much as 600 bbls. of oil per day indicating that oil has moved up structure as the gas has been produced. There is about 400 feet of down throw on the west side of the Crescent field fault while there is about 1,800 feet of downward movement in the formations on the east side of the Oklahoma City field. These geological features indicate that the pre-Pennsylvanian sediments were laid down over the crest of the granite ridge and were later displaced by faulting. The fault has sealed the oil and gas in the formations and prevented its escape, at the same time causing steep dips in the producing stratas with the gas in the upper portions, the oil just below the gas and water down dip beneath the oil. This structural feature has limited the area of the deep productive sands in both the Moore or Crescent field.

The chronological report of these four wells follows:

Sinclair Prairie Oil Co. and others No. 1 Franklin in SE NW SE section 21-10-2w, Moore field, Cleveland County, was deepened from 7,291 feet to 7,318 feet and tested for three hours on May 18. The first hour's flow was 1,571 bbls.; second hour, 1,414 bbls., and third hour 1,257 bbls. Because this test could not be continued through the fourth hour no June potential was set.

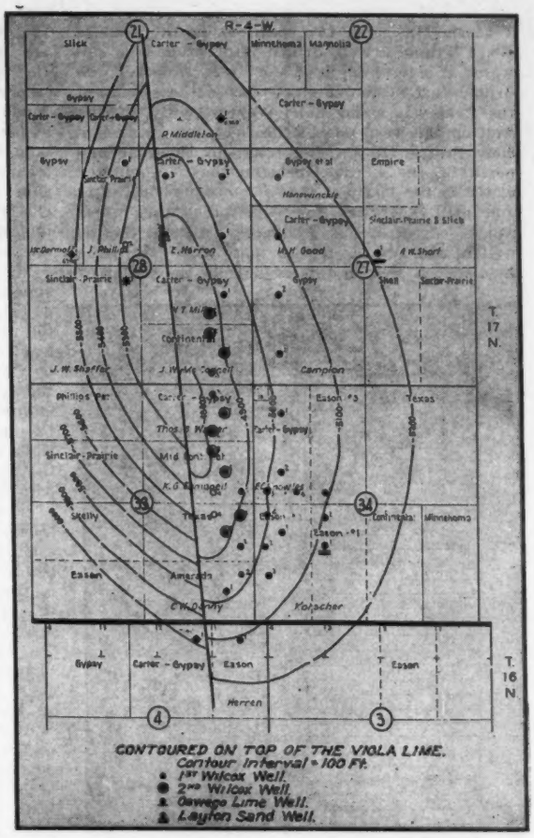
Continental Oil Co. No. 2 McConnell, in NW SE SE section 28-17-4w, Crescent field, Logan County, was completed in second Wilcox between 6,250 and 6,305 feet and tested on June 22. The first hour's flow was 1,950 bbls.; second hour 1,497 bbls.; third hour 1,380 bbls., and fourth hour 1,354 bbls. This well was given a potential of 33,928 bbls. per day.

Sinclair Prairie Oil Co. and others No. 1 Franklin, in SE NW SE section 21-10-2w, Moore field, Cleveland County, was tested on July 1 at total depth of 7,318 feet. First hour's flow 1,874 bbls.; second hour 1,544 bbls.; third hour 1,475 bbls., and fourth hour 1,389 bbls. This well was given a potential of 35,274 bbls.

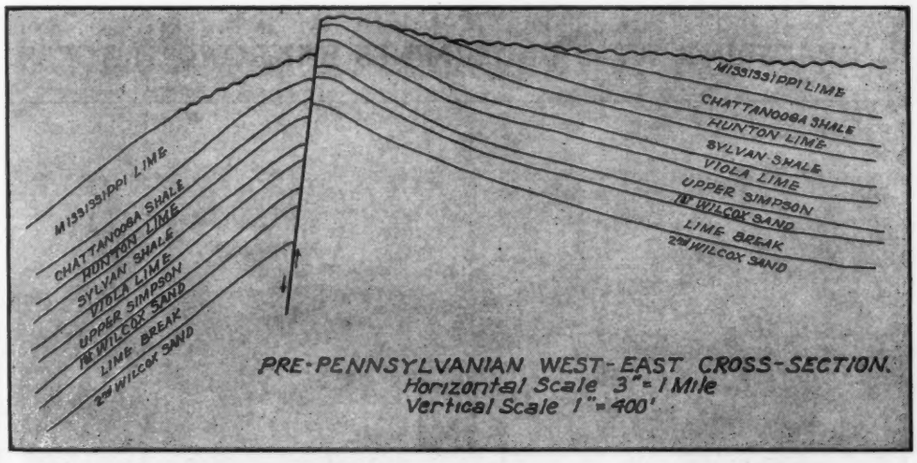
Carter-Gulf Oil Co. No. 2 Miller, in SW NE SE of section 28-17-4w, Crescent field, Logan County, was completed in the second Wilcox between 6,283 and 6,324 feet and tested July 13. Flow the first hour was 2,347 bbls.; second hour 1,977 bbls.; third hour 2,430 bbls., and last 38 minutes 1,354 bbls. Tankage was then filled and to arrive at potential the flow for the last 2 hours and 38 minutes was used and the well rated at 52,280 bbls. daily capacity.

This history of the completions in these two fields indicates how each well has been progressively larger than the previous one and it is probable that several additional large wells will be completed in the second Wilcox sand in each field. But the limits of each field has also been fairly well defined by the completion of dry or salt water wells on each side of the producers.

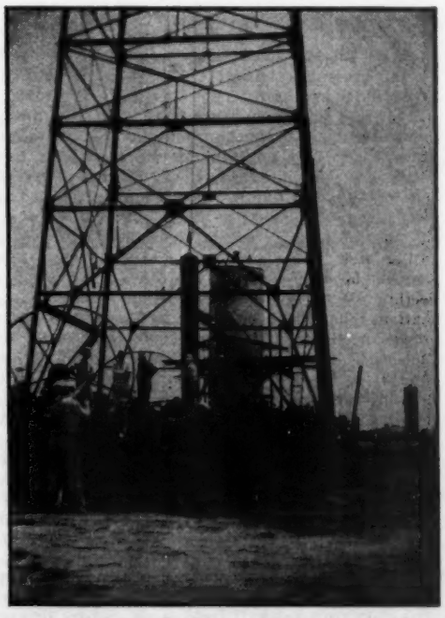
In the Moore field, Sinclair Prairie Oil Co. No.



Contour map of Crescent pool, Logan County, Oklahoma showing position of fgult zone

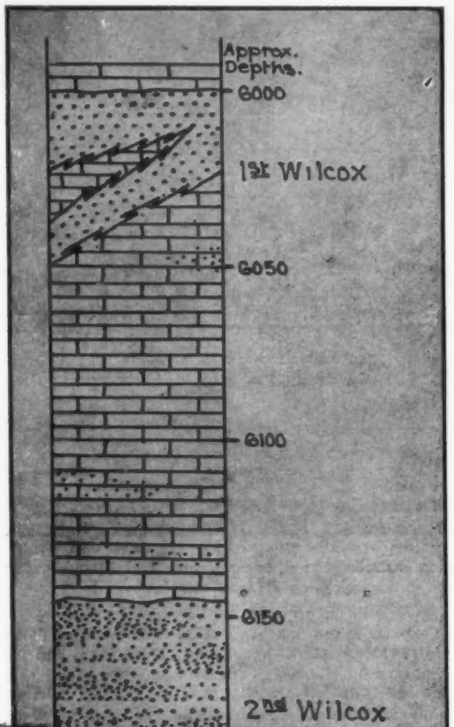


Idealised cross-section of pre-Pennsylvania sediments in Crescent pool, Logan County, Oklahoma



Carter-Gulf No. 2 Miller in the Crescent field, Logan County, Oklahoma's largest well

1 Lizzie Husmann, two locations to the west of No. 1 Franklin well, drilled into bottom-hole salt water at a total depth of 8,025 feet. Another well drilled east of the fault on the southeast side of the field was a dry hole. Very recently another well on the west side of the field, known as Sinclair Prairie Oil Co. No. 1 Arnold Hussman and north of the Lizzie Husmann, has encountered water in the hole but it is not bottom-hole water and drill stem has determined that this water can be cased off. If production is found in this well it will add about four more locations to the field. Each well in this field is in the center of



Generalized columnar section of Wilcox series showing lenticular nature of sands in Crescent pool, Logan County, Oklahoma

10 acres so this would mean about 40 acres added to the present estimated 400 acres of lower Wilcox producing sand.

In the Crescent field it is quite definitely known that not more than 8 and at the outside 10 wells can be drilled into the second Wilcox and produce clean oil. Again these wells are spaced one to 10 acres so this formation apparently is limited to less than 250 acres in this field.

One interesting fact in connection with No. 2 Miller well was the pressure control completion method used in drilling into the lower Wilcox section. With the well making oil from the formation found between 6,233 feet and 6,283 feet it was necessary to load the hole with crude oil to permit deepening into the lower section. While this oil in the hole exerted sufficient hydrostatic pressure to keep the upper pay from producing it did not place pressures upon the lower Wilcox sand in excess of the formation pressure. During the drilling-in a test was made by allowing the well to flow into the oil and gas separator for six minutes and in that time it made 180 bbls. of oil. This indicated the big pay had been penetrated and after drilling 17 feet in this section of the second Wilcox the hole was considered as completed at a total depth of 6,324 feet and the well tested with the results as given above.

At the top of the casing in the wells in the Moore field the connections consist of five 5,000-pound tested pressure master gates one set above the other from the cellar up into the derrick. On top of the riser a "cushion head" is used and the flow line to the separator is connected into this head. With the five master gates it has been found necessary to partially close the upper one and then start to close the one next below and both would be so badly sand cut it was then necessary to use the other three valves to completely shut in the well. With the three lower gates closed it was then possible to repair the two upper gates and make the well ready for production again.

In the Crescent field the Carter-Gulf well is supplied with three 5,000-pound master gates and a long 20-inch diameter head attached to the top of the 7-inch flow string. Out of the 20-inch head one 8-inch flow line leads toward the 7-foot by 22-foot heavy duty oil and gas separator but the stream is split into three parts by the use of three 6-inch lines between the end of the 8-inch flow pipe and the trap. One of these 6-inch lines leads straight into the side of the separator while the other two branches are connected into the trap on opposite sides. This manner of flow has a cushioning effect in the oil and gas separator because velocity of the stream of gas, oil and any sand that may be produced is reduced greatly before it escapes into the separator.

Out of the 7 by 23-foot separator at No. 2 Miller well a 10-inch flow line leads to the battery of seven 1,000-bbl. bolted steel tanks and when the test was started the tank builders had not quite completed erecting all of these tanks and had to hurry to make the last two ready to receive the oil while the first five were being filled.

Before the Continental Oil Co. No. 2 McConnell was completed in the second Wilcox sand Carter Oil Co. shot No. 2 Miller with 16, 8 and 16 quarts of nitroglycerin between 6,233 and 6,283 feet in the upper Wilcox endeavoring to make a well there. After these shots the well made about 1,050 bbls. and as soon as it was known there was big production in the lower section of this Wilcox sand the well was deepened to 6,327 feet. The best part of the sand was found in the bottom 17 feet of the hole.

The accompanying maps and geological sections indicate the conditions in this area. The contour map drawn on the Viola lime shows the size of the area in that upper formation but deeper where the wells penetrate the second Wilcox sand the productive zone is greatly reduced in size.

The geological conditions in the Moore field are very similar to those shown in the maps and sections except that the producing sands are on the west side of the fault. In that field the area of the second Wilcox sand will also be limited by its structural position.

Marketing Code Submitted to Trade Commission

WASHINGTON, D. C., July 21.—The oil marketing code was today formally presented to the federal trade commission by Paul Hadlick of the National Oil Marketers Association and C. E. Arnott, vice president, Socony-Vacuum Oil Corp.

The only changes were those making the code applicable to all states east of the Rockies, and referring to the proposed set-up of administrative provisions as examples only of the method of administering the code provisions. As originally planned the code referred only to some 12 midwestern states.

A brief covering the reasons for the proposal, and copies of the minutes of most of the code committee's meetings attended by representative marketers speaking for all segments of the industry, were also submitted.

In compliance with trade practice conference procedure instructions there was also submitted statistics covering the number of employes in the marketing, refining, transportation and drilling and production branches of the industry, as well as the annual volume of the principal products marketed. These figures show that there are 999,800 employes engaged in the industry of which 721,800 are engaged in the marketing division.

No action will be taken by the Federal Trade Commission until early in the fall due to the fact C. E. Arnott, leader of the code movement, is leaving for a vacation in Europe on July 23 and is not expected back for several weeks. However, once there is an industry trade practice conference it is not expected much time will elapse before formal action by the commission on the code. It is probable the code will be formally placed in operation by the commission before the first of the year.

CRATERING WELL UNDERMINES RAILROAD TRACKS

National Petroleum Corp. No. 1 St.L.&B.M., Greta field, Refugio County, continued to blow out of control July 18 in a rampage which began June 29. The well is on the right of way of Missouri Pacific's main line between Houston, Corpus Christi and Brownsville, between the tracks and the Houston-Refugio concrete highway.

The well was brought partially under control July 1 when crews of H. L. Patton Co. were successful in stabbing connections on the well, but shortly afterward the casing cut out below the connections, causing the well to start cratering. The crater, more than 25 feet across, has reached and is undermining the train tracks, and extends almost to the highway.

The well blew out from a depth of 4,400 feet, the main producing horizon of the field. Production is largely gas.

Wildcatters Extending Exploration to Many Virgin Districts of Kansas

By DAL DALRYMPLE

Hot weather and a scarcity of water have failed to stop the wildcatters, who disregard rising temperatures as they continue their farflung search for hidden oil reserves along an ever-expanding frontier in central and western Kansas. A recent survey disclosed a decrease in new work in proven fields, due in part to climatic conditions—but the same survey showed that exploration in wildcat territory is continuing at the same fast pace that has prevailed over a large section of Kansas for the past six months.

Wildcat operators, encouraged by the phenomenal number of new pools opened in Kansas in the past two years, are not confining their activities to the famed Barton Arch trend of central Kansas but are making tracks in far western, northern and southern counties that heretofore have been outside the play. Even the old, shallow areas in the eastern and southeastern counties have attracted several of the venturesome operators who always are seeking oil where it never before has been found. Scarcely a week passes but what some wildcat test is announced in a virgin territory.

In recent weeks wildcat tests have been announced in Barber, Clark, Decatur, Edwards, Finney, Graham, Harper, Haskell, Lincoln, Lyon, Marion, Meade, Pawnee, Saline, Scott and Seward Counties—mostly rank wildcat territory, afar from proven production.

FAVORITE AREA

The favorite area at the moment, however, is Ellis County, which is setting the pace for wildcat operations in the Sunflower state. Eighteen wildcats were listed in that county last week. Other counties popular with the wildcatters and the number of tests in each are: Barton, 9 wildcats; Butler, 4; Ellsworth, 3; Kingman, 4; Cowley, 2; McPherson, 2; Ness, 2; Reno, 7; Rice, 11; Rooks, 8; Rush, 2; Russell, 7; Sedgwick, 2; Stafford, 2; Sumner, 5; Trego, 2; Woodson, 4. Most of these counties have several proven pools, and in several instances the wildcats will be extensioners rather than new pool openers if they find production.

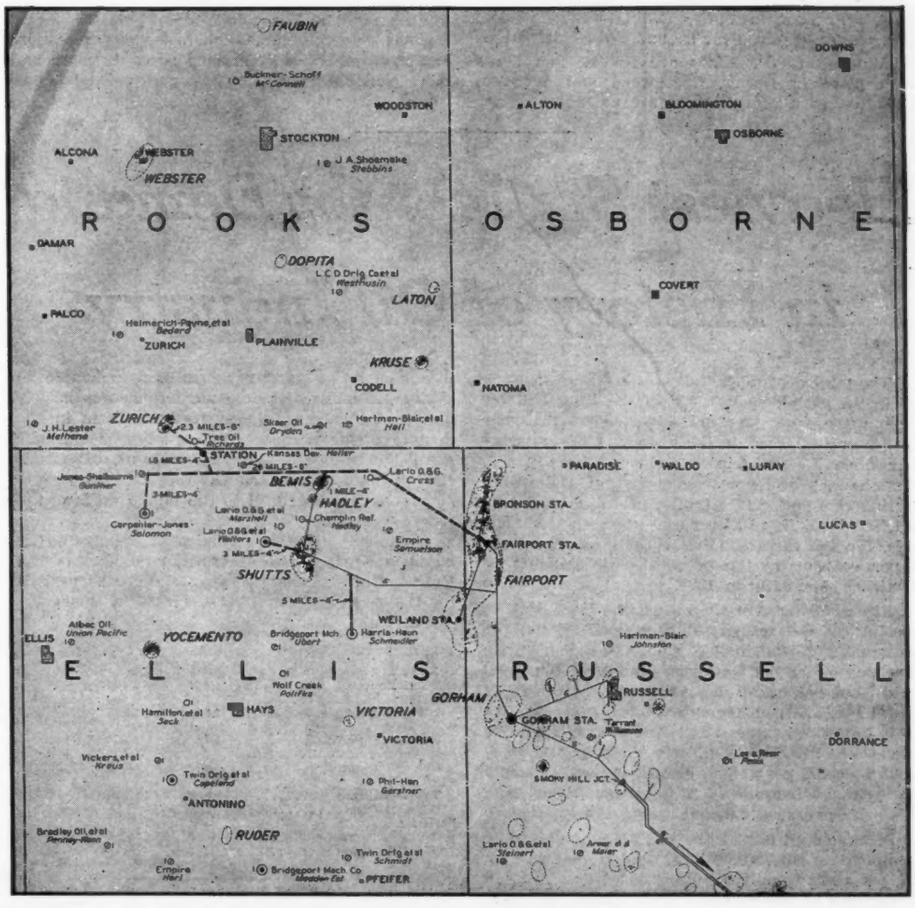
The major wildcat play of the past two years has followed the Barton Arch trend, from southeast to northwest, an area frequently referred to as Western Kansas but which geographically is central Kansas. At the beginning of this year Oklahoma led Kansas in the number of wildcats, but as strike after strike was made along the Barton Arch, Kansas gradually gained and several weeks ago passed Oklahoma.

At the beginning of 1936 only two tests were listed in Ellis County, with three in Rooks County directly to the north. Russell County had the most wildcat tests in January, with Barton, Rice and Cowley Counties close behind.

Then came the pipe lines into Ellis County and the exploration increased so rapidly thereabouts that the county took the lead in number of wildcat tests. The Kaw Pipe Line Co. laid a line west from Gorham, in Russell County, to the Ruder and Victoria areas in Ellis County, and that was the signal for a campaign that has since carried exploration into all parts of the county.

Now a new line is being built into Ellis and Rooks Counties, and with the additional transportation facilities it will provide, further impetus undoubtedly will be given the work in the two counties. This new line to be laid by the Stanolind Pipe Line Co. will serve the northern Ellis County areas and the Zurich district of Rooks County, as shown in the accompanying map. The map, incidentally, shows location of numerous wildcat tests in Russell, Ellis and Rooks Counties. Osborne County, to the northeast of this play, as yet has no active test.

Discovery of big production in the Ruder area of Ellis County and the opening of other new areas in Russell and Rooks Counties has been another incentive to the increase in wildcat activity in that particular section of the state. Several failures have been drilled in each of these counties, but the proporation has not been high for wildcat operations and the discoveries have been sufficiently frequent to make this a wildcatters paradise.



Stanolind Pipe Line Co. is extending its Kansas lines into Ellis and Rooks Counties, as shown by the dash-lines on the map. This is the heart of the busiest wildcat territory in Kansas, Ellis county now having more wildcat tests than any other Kansas county

But the big wildcat play of Kansas will not stop at Ellis and Rooks Counties. Exploration, following the trend, is due to increase within the next few months in Trego, Graham and other counties to the north and west, observers predict. Production already has been found in the Wakeeney and Riga areas of Trego County and, when pipe lines eventually arrive, the big play will get under way.

Another wildcat play is under way in southwestern counties and along the Oklahoma and Colorado borders. This is not as spectacular as that of Russell, Rice and Ellis Counties and their neighbors, but the activity is spread out over a territory that is bigger than some of the eastern states and includes one of the world's greatest gas fields, the Hugoton district. Little oil has been found, as yet, in this great southwestern Kansas area, production largely being confined to the Medicine Lodge district of Barber County and the Shallow Water area of Scott County. Numerous strikes of gas have been made, however, notably in Barber, Clark, Seward, Haskell, Grant, Finney and Edwards Counties, as well as in the prolific Hugoton gas field of Stevens and Morton Counties.

Indeed, the limits of the Hugoton area have never been defined and the gas pools opened by wildcats in Seward, Haskell, Grant and Finney Counties may be connected with that big field. One of the newest gas areas to be opened by a wildcat well is the Holcomb district about 15 miles southwest of Garden City. At frequent intervals, the Hugoton gas area has been pushed northward, without any dry holes. Wildcat gas discoveries of this year in the general Hugoton district include the new Haskell County pool five miles southwest of Satanta; another producer three miles north of Satanta, and producers near Hickok, in eastern

Grant County. In spite of the fact that production from these new areas is not being used as yet, exploration is continuing as operators seek—not only the gas that underlies much of that southwestern corner of the state—but the major oil pool that many believe some day will be uncovered in that district.

The Shallow Water pool of Scott County, opened by Atlantic Oil Producing Co., is the farthest west oil producing area in the state, but it has no pipe line facilities. The lack of connections undoubtedly has delayed activity in that region, but just a few days ago Robert McNeely and the Watchorn Oil & Gas Co. staked location for a wildcat one mile south of production in the Shallow Water pool. Several other wildcat tests already have been started or are contemplated in that southwestern Kansas territory.

Over in the south and eastern counties, in some of the older producing areas of the state, is another wildcat play. This centers largely in Cowley and Sumner Counties, Sedgwick, Butler, Greenwood and Woodson Counties.

Features of wildcat activity in these counties in the past month have been the extension of the Weathered pool of Cowley County with a good producer, and the extension of the McCullough pool, near Leon in Butler County. Both wildcat producers were good for around 1,000 bbls. daily.

Wildcatters constantly are finding new areas to explore in Butler, Greenwood and Woodson Counties, even though these are among the older producing areas in the state. In fact, for the past year Woodson County has been one of the busiest wildcat counties and, while numerous dry holes are drilled, it is not unusual for a new shallow pool to be discovered. Just last week the play in the southeastern part of the state was extended to the north, with a test being started by Becker Brothers in Lyon County, 12 miles south of Emporia.

The northeastern corner of Kansas is the only part of the state that isn't getting attention from wildcat operators—but with new tests starting in Lyon, Marion and Saline Counties the explorers are gradually closing in on that sector.

A list of wildcat discovery wells that have been completed in 1936 to date will not be given here, as they are to be described in the semi-annual review number of The Oil and Gas Journal next week. Suffice it to say there scarcely has been a week this year in which a wildcat was not completed, and a goodly share of them were pool openers or extensioners. And there have been few weeks, indeed, in which from one to 10 wildcat tests have not been started.

Wildcat operators wandered far in Kansas last year and in 1936 to date, but they are going still further before the year ends. Kansas is the wildcatter's happy hunting ground, he has found the hunting good and is going to continue the search for his favorite game—oil and gas—over more and more of Kansas' farflung acres, in more and more counties where the first production is to be found.

Heaviest Six Months Demand in History of Oil Industry

The total demand for all oils in terms of crude oil in the petroleum industry of the United States during the first six-months period of the year 1936 was the largest in the history of the industry according to a preliminary estimate of William J. Kemnitzer, petroleum technologist of California. During this period, the total demand averaged 3,161,000 bbls daily; 10.4 per cent above the 2,864,000 bbls. for the corresponding period last year, and 6 per cent above the previous peak demand of 2,981,000 bbls. daily in 1929.

Prices of both crude oil at the well and of gasoline at the refinery during the first half of the year were the highest since 1930. The price of crude oil in the Oklahoma-Kansas fields averaged $1.04 per barrel compared with 94 cents per barrel last year, an increase of 10.6 per cent. In 1930, the price averaged $1.17 per barrel. The price of gasoline at Oklahoma-North Texas plants averaged 6.1 cents per gallon, compared with 4.9 cents last year, an increase of 24.4 per cent. For 1930, this price averaged 6.6 cents per gallon.

Stocks of all oils at the end of June this year amounted to 552,756,000 bbls., and were lower by 2.7 per cent from the 568,053,000 bbls. on hand at the end of the corresponding period last year. Stocks at the end of June this year were the lowest since June, 1926, and were 20.8 per cent below the peak volume of 698,202,000 bbls. at the end of June, 1930.

The simultaneous increase in demand with the decrease in stocks resulted in a marked reduction in the days' supply on hand to the lowest figure on record. The days' supply at the end of June, this year, amounted to 175, compared with 188 last year, a decrease of 6.9 per cent. At the end of June 1930, the days' supply numbered 223.

Despite the reduction in stocks on the one hand and increase in demand on the other, a relationship resulting in the reduction in the days' supply above ground, the price of crude oil this year was 15.4 per cent below "normal" (year 1926), and the price of gasoline 16.4 per cent below normal. This record of the petroleum industry for the first half of 1936 is the best since the "proration" system was invoked in 1927. The striking improvement, according to Mr. Kemnitzer, is not only the result of curtailing production at a time of increasing demand, but also is largely due to the success of cooperative efforts in the manufacturing and distributing of products. The methods leading to such improvement, of course, can continue only as long as they are not unduly monopolistic or harmful to the public welfare, the report concludes.

Following are the statistics of supply-and-demand and price in the petroleum industry of the United States during the first six-months periods for the years 1935 and 1936. (Data in thousands of barrels):

	Jan.-June 1935	Jan.-June 1936	Per cent change
DEMAND:			
Total demand	2,864	3,161	+10.4
Exports	310	320	+ 3.2
Domestic demand	2,554	2,841	+11.2
SUPPLY:			
Domestic production	2,739	3,074	+12.2
Imports	147	149	+ 1.4
Change in stocks	+22	+62	.....
STOCKS:			
Total volume	568,053	552,756	— 2.7
Days' supply	188	175	— 6.9
PRICE:			
Crude oil (per bbl.)	$ 0.94	$ 1.04	+10.6
Gasoline (per gal)	.049	.061	+24.5

OBITUARIES

W. H. WARREN, 58, Fort Worth, Tex., co-owner of the discovery oil well which opened the Corsicana-Powell field, January 8, 1923, died with a heart attack in Mineral Wells.

JOSEPH H. BRENNAN, 77, drilling contractor and Tulsa resident since 1908, died Saturday night following a year's illness. He was born at Rochester, N. Y., in 1859, entering the oil business in Pennsylvania.

SAMUEL R. DYE, 53, Tulsa sales manager for the J. A. Roebling Sons & Co., died in a Tulsa hospital Sunday following a two-week illness of typhoid.

JAMES A. TALBOT, former chairman of the board of the Richfield Oil Co., died from a heart attack at St. Luke's Hospital, San Francisco, Calif., July 17.

CLAYTON MARKS, founder and president of the Marks Manufacturing Co., Chicago, died in that city on July 9.

Tide Water Oil to Purchase Properties of Pelican

After spending nearly two months in surveying and appraising the Rodessa, Louisiana, properties of Pelican Oil & Gasoline Co., Inc., Tide Water Oil Co. is expected this week to announce officially the purchase of the 13 Pelican oil and gas wells and the 50,000-bbl. natural gasoline plant in the field. The date of the transfer is expected to be August 1.

Bottom-hole pressure readings have been taken by Tide Water engineers for a period sufficient to permit an accurate study of the producing characteristics of the wells, and these data are believed to be the basis for evaluating the properties. A price of $1,500,000 has been suggested, but confirmation is lacking. The cost of the gasoline plant has been estimated at $200,000. It is practically new.

Headed by A. G. Glassell and W. J. Hunter of Shreveport, La., Pelican was among the first of the independents to enter the Rodessa field following discovery of oil. The company's first test was completed as a gas well. The oil wells, ranking among the largest in the field, helped greatly to raise its potential to 50,000 bbls. daily.

To date the Pelican lease has produced about 1,500,000 bbls. of crude and a large amount of gas. At one time a total of 20,000 bbls. of oil was pulled daily from 12 wells. Daily production allowed from the lease at present is 3,475 bbls.

Tide Water will be the fourth major company to purchase producing properties in Rodessa. Others are Standard Oil Co. of Louisiana, Magnolia Petroleum Co. and Gulf Refining Co.

Since Tide Water operates no refineries in the Southwest, it was considered probable the oil will be transported into East Texas through the recently purchased line of the United Gas Public Service Co., thence to the sea coast for shipment to the eastern seaboard, where Tide Water operates a large refinery at Bayonne, N. J.

Michigan Refiners Seek Crude

Three independent Michigan refineries, two in the Detroit area and one at Muskegon, last week were reported negotiating for the purchase of Mid-Continent crude oil through major pipe lines to Toledo and Chicago and thence to the Michigan plants by tank truck, rail or boat.

Revelation of the new plans to supplement a critical shortage of Michigan crude with oil from southwestern fields indicates abandonment of previously announced plans to lay a new $6,000,000 pipe line from a point on the Ohio River to central Michigan, or to barge crude direct from East Texas and Louisiana fields to Muskegon.

The Inland Refining Co., operating a plant near Pontiac, is reported to have negotiated a contract with the Buckeye Pipe Line Co. for 1,000 bbls. a day of Oklahoma City crude to be delivered to a new storage tank to be erected at Earhart Station, Mich., northern terminal of a branch line from the Buckeye company's main line to Toledo. Interlakes Refinery at Drayton Plains, near Detroit, also is reported negotiating for Mid-Continent crude from the same source.

The Old Dutch Refining Co., of Muskegon, is reported to be negotiating with two marine operators, one having at his disposal a 20,000-bbl. tanker and the other a tug and two tow barges, to transport Mid-Continent crude from the terminal of a major pipe line at Chicago across the lower part of Lake Michigan to Muskegon.

Petrolia Rate Schedule

PETROLIA, Ontario, July 18.—A new rate schedule for natural gas is being negotiated between the town council and Union Gas Co. The old step-up rate, designed to conserve gas against an anticipated shortage some years ago, will be replaced by the existing Windsor rate, under which more extensive use of gas is encountered.

Deepest Well on Gulf Coast Completed Without Trouble in Cementing Pipe

By NEIL WILLIAMS

HOUSTON, Tex., July 20.—The longest, although not the heaviest, string of casing in the world has just been run and cemented by Continental Oil Co. in No. 1 Hebert, wildcat test on the Abbeyville prospect in Vermilion Parish, Coastal Louisiana. The string, consisting of 7-inch O.D. pipe, was seated at 10,947 feet, 9 feet off bottom. It was run for protection of hole, and as soon as cement sets, the hole will be drilled deeper.

With bottom at 10,956 feet, the test is the deepest drilled on the Gulf Coast. It exceeds by 206 feet the previous deepest test, Shell Petroleum Corp. No. 1 Jarnigan at Roanoke, Jefferson Davis Parish. Also, the open hole carried before running the long string of casing was the greatest on record. The last pipe in the hole was the 13⅜-inch surface string at 1,881 feet. From that to bottom was 9,075 feet of open hole.

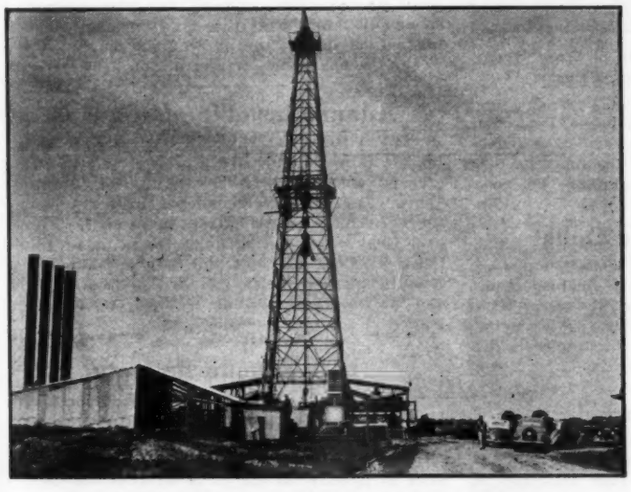
The string, exclusive of threading, was made up of 8,947 feet of 7-inch O.D., 30-pound, Grade D, regular casing with 2,000 feet of 28-pound external upset, seamless steel, Doheny-Stone threaded, casing on top, making a total load of approximately 325,000 pounds.

Gulf Oil Corp. (Gulf Production Co.) No. 103 McElroy, Upton County, Texas, previously held the record for the longest string of casing, a string of 7⅝-inch casing landed at 10,301 feet. That string, 34-pound pipe, had a total load of more than 350,000 pounds.

In the Continental well, the pipe was started in the hole at 7 p.m., Thursday, July 16. At 11:30 a.m., Friday, July 17, only 16 hours and 30 minutes later, all the pipe had been run and cemented. Two thousand sacks of cement were pumped into the hole, sufficient to fill the annular space behind the pipe. Circulation was broken after 2,600 pounds pressure had been built up by the cementing pumps. The pipe was run in the conventional way with a guide shoe and float collars. No trouble was experienced in running the casing, which reflects the good condition of the hole. A survey made at 10,903 feet showed it to be only two degrees off vertical. From the 13⅜-inch surface casing seat at 1,881 feet, 12¼-inch hole was drilled to 8,015 feet, where the hole was reduced to 9⅞-inch, carried to bottom.

Total elapsed time from drilling the 13⅜-inch plug to bottom was only 88 days. The test spudded in April 10 and 251 feet of 18⅝-inch casing was cemented on the second day. The 13⅜-inch plug was drilled out April 19, and on July 16 the hole was at its present depth with casing being run. From 4,700 feet to bottom cores were taken every 25 to 30 feet, total cores being approximately 220. Taking of cores was facilitated by wire line equipment, with which it was possible to come out of the hole at 10,000-foot depths in from 20 to 30 minutes.

Coming out of hole with last core before running casing



Continental Oil Co. No. 1 Hebert, deepest test on Gulf Coast

Also included in the drilling time was the time for three electrical coring surveys. The first took in from 1,881 to 8,015 feet, the second from 8,015 to 10,685 feet, and the last from 10,685 feet to bottom. In these and in the coring, sands showing oil were indicated at 5,400 feet, 7,500 feet and 7,900 feet with a possible gas sand at 7,660 feet.

The amount of open hole carried, totaling 9,075 feet, is an especially interesting record. The ability of the operators to hold up the walls through the thick sections of soft and unconsolidated formations, characteristic of the Gulf Coast, stands out as an achievement in mud conditioning and in care in drilling. Native clays were used in making mud. The drilling was unmarred by fishing jobs or other mechanical difficulties.

The well was drilled under contract by Loffland Brothers, using a large double drawworks rig formerly in service in the Bosco field. On the rig is a 14 x 14 engine with a 12 x 12 engine for the auxiliary drawworks. There are two mud pumps, one being 14½ x 7½ x 18 and the other being 15½ x 8½ x 20. The derrick is 136 feet high with a 30-foot base, on an 8-foot substructure, and of steel construction. Four boilers generate the steam power.

The test topped the Miocene at 4,043 feet and is reported to be still in the same horizon, indicative of the great thickening of formations southeastward into Louisiana. Plans call for drilling to the Marginulina-Frio phase of the underlying Oligocene, expected below 13,000 feet.

Drilling will be resumed as soon as cement plug of the 7-inch casing sets adequately. In drilling plug and deepening 3-inch drill pipe will be used, replacing the 5-inch pipe which has drilled the hole to its present depth.

This is the sixth test on the Louisiana Gulf Coast drilled to below 10,000 feet:

Continental Oil Co. No. 1 Hebert, Abbeyville prospect, Vermilion Parish, 10,956 feet.

Shell Petroleum Corp. No. 1 Jarnigan, Roanoke, Jefferson Davis Parish, 10,750 feet, abandoned September, 1935.

Humble Oil & Refining Co. No. 1 Nelson Thomas, Roanoke, Jefferson Davis Parish, 10,583 feet, abandoned October, 1935.

Superior Oil Production Co. No. 1 Duplanter, East Baton Rouge Parish, 10,360 feet, abandoned October, 1935.

Shell Petroleum Corp. No. 1 Realty Operators, Terrebonne Parish, 10,155 feet, abandoned March, 1936.

Superior Oil Production Co. No. 1-A Martinez, Bosco, St. Landry Parish, 10,005 feet, abandoned January, 1935.

No tests have been drilled to 10,000 feet on the Texas Gulf Coast, Amerada Petroleum Corp. No. 2 Halff & Oppenheimer at Pearsall, Frio County, drilled to 10,015 feet in 1934.

Tests deeper than the Continental well include Gulf Oil Corp. No. 103 McElroy, 12,786 feet; General Petroleum Co. No. 1 Berry, 11,377 feet, and Denver Production & Refining Co. No. 1 A-Dah-Noe, 11,230 feet.

Left to right: William Brown, toolpusher, Loffland Bros., drilling contractors; Max Bornhauser, geologist; Fred Waltermire, superintendent, and Jack Aynesworth, Continental Oil Co.

Pipe Line Activity

Outlet for New Kansas Pools

To provide outlet for several of the more recently completed wells opening new pools in Ellis and Rooks Counties, Kansas, Stanolind Pipe Line Co. will lay about 26 miles of 6-inch reconditioned pipe line northwest and west from the Fairport station in Russell County. This line will pass within one mile of the Bemis pool in northern Ellis County and a 4-inch line will serve this field. Further to the west about two miles of 4-inch and 2.3 miles of 6-inch line will connect with the Zurich field in southern Rooks County. Two other wells west of the Zurich branch will be served by the 6-inch system and a branch of 3 miles of 4-inch to Carpenter-Jones No. 1 Solomon well.

The Stanolind pipe line already serves Shutts and Hadley fields but a new 4-inch line is being laid to a well 3 miles west of Shutts field. There will also be a 5-mile branch of 4-inch line running south from the present system to serve Harris-Haun No. 1 Schmeidler in Ellis County.

This work is to be started about the first of August if right of way has been secured by that time. As occasion demands this system will be extended to take in other new wells and pools in this area.

Humble Line to Talco

FORT WORTH, Tex., July 20.—Humble Pipe Line Co. is surveying for an 8-inch oil line to be laid from the Talco field in northwest Titus County to connect with its Van-East Texas-Louisiana main line at its pumping station at Longview, Tex., 60 miles distant. This will be the first outlet from the new field, there now being three loading racks and gathering systems serving the field, Humble Oil & Refining Co. owning one and now laying a gravity gathering system in the field to gather oil to run to the two 55,000-bbl. steel storage tanks just completed, which are part of the new transportation system.

Arkansas-Louisiana Lines

SHREVEPORT, La., July 20.—Arkansas-Louisiana Gas Co. is planning to lay 15 miles of 8-inch and 3 miles of 10-inch line from a point 2 miles south of Mount Pleasant, Texas, field to the Talco area to supply gas for drilling purposes there.

Arkansas-Louisiana Gas Co. is also arranging to lay 10 miles of 14-inch gas line from a point north of Simsboro, which is on its trunk line between Monroe and Shreveport, to serve the Fowler, Gardner and Davis gas wells recently completed in Lincoln and Bienville Parishes.

Inter-Plant Pipe Line

MUSKEGON, Mich., July 20.—Semet-Solvay Engineering Co., New York, has started work on a 48-inch welded steel pipe line to extend 2,400 feet from the Hanna furnace plant, Zug Island, to the Delray plant of the Detroit Edison Co., Detroit. The line will cross the 200-foot Rouge River on a new bridge about 150 feet above the water. Great Lakes Steel Corp. awarded the contract. Pipe will be fabricated in the Semet-Solvay Engineering Corp. plant at Owosso, Mich.

N. Y.-Pennsylvania Gas Line

NEW YORK, July 20.—Construction is scheduled to start soon on 140 miles of natural gas pipe line from the Pennsylvania gas fields to the Dunkirk and Betavia districts of northern New York. Plans for the new gas artery were announced by Stephen B. Severson, vice president of the Republic Light, Heat & Power Co. of Buffalo, N. Y. The line is to be built by Penn-York Natural Gas Corp.

Sun Gasoline Line

Sun Oil Co. will build a 100-mile 8-inch gasoline pipe line from Malvern, Pa., near Sun's Marcus Hook refinery, northeastward to Trenton, N. J., and Newark. Contract has been let to Jones and Laughlin Steel Corp. for 9,000 tons of seamless steel pipe. Sun already has a gasoline pipe line system extending from Pennsylvania to Toledo.

Pipe line across bridge over branch of Crazy Woman Creek in Lance Creek field, Wyoming

Second Gainesville Outlet

FORT WORTH, Tex., July 20.—A 6-inch oil pipe line from the Anderson-Kerr field southeast of Gainesville, in Cooke County, Texas, is being constructed to the M-K-T railway, a mile north, where loading racks are being constructed. This will be the second outlet for the field.

Contract Awarded

NEW YORK, July 20.—Contract for laying 30-mile pipe line from Crowell to Quanah, Tex., has been awarded to White Deere Pipe Line Co. by Texas Pipe Line Co. The pipe will be 6-inch Lindewelded.

Keystone Loop

Keystone Pipe Line Co. (Atlantic Refining Co.) has completed 57 mile 8-inch loop between Montello and Mechanicsburg, Pa., on its Philadelphia-Pittsburgh gasoline line.

Refinery Projects

Old Dutch Crude Supply

MUSKEGON, Mich., July 20.—Old Dutch Refining Co., operators of a refinery here, was assured of a sufficient crude supply for its new $200,000 vapor phase cracking unit, now under construction, to supplement any Michigan shortage. John Borden, president of the company, announced that he had contracted with a major producing company to obtain 2,000 to 3,000 bbls. of crude daily, via the Texas-Empire pipe line to Indiana Harbor, Ind., near Chicago, and thence by tow barges across lower Lake Michigan to storage tanks on the Muskegon harbor.

Two 6,000-bbl. barges and a 750-horsepower tug owned and operated by the Ocean Transportation Co., Boston, Mass., will arrive in Chicago about August 15 to start the new movement about September 1.

Operate Griswold Plants

SHREVEPORT, La., July 20.—Continued operation of the Griswold Refining Co. plants near Rodessa and Cedar Grove, with no change in the policy of operation at either plant, has been announced by John Bowden, who was appointed administrator of the company. The Cedar Grove plant was recently rebuilt.

Eugene Griswold, former owner of these plants, died here recently and this occasioned the announcement by Mr. Bowden.

New Unit Nearing Completion

MUSKEGON, Mich., July 18.—Old Dutch Refining Co., now installing a $200,000 vapor-phase cracking unit at its plant here, announced that the plant will be completed about August 15. Construction of the new unit is under the supervision of R. B. Leydig, engineer for the T.P.V. Corp., owned by Petroleum Conversion Corp. As a by-product the new unit will produce a large quantity of gas already contracted to the West Michigan Consumers Co., which has agreed to pay $50,000 in advance upon completion of the cracking unit.

Shell Oil Building Tanks

LOS ANGELES, Calif., July 20.—Shell Oil Co. is completing two additional aviation gasoline tanks at its marine terminals at Los Angeles Harbor to hold another 25,000 bbls., needed in serving its new contract with the U. S. Navy in California during the year which began July 1. Deliveries already have started. The company has also contracted to supply local naval vessels with 1,000,000 bbls. of fuel oil during the current six months, while Texas Co. has a similar contract on 2,000,000 bbls.

Atlantic Installing Gray Unit

NEWARK, N. J., July 18.—The Atlantic Refining Co. is installing a Gray process unit to refine cracked gasoline at its Franklin, Pa., refinery. When construction is completed, this will be the fourth refinery of Atlantic to use the Gray process. Gray clay treating units are in operation at the Brunswick, Ga., and Philadelphia refineries of Atlantic and are being installed to treat cracked and polymerized gasoline at the Atreco, Tex., plant.

Fort Norman Refinery

EDMONTON, Alberta, July 18.—Ronald W. MacKinnon of Calgary recently left here by airplane for Fort Norman to start the season's refining operations for Imperial Oil, Ltd. The price of gasoline in the northern area will be reduced 10 cents this season to 54 cents, including tax. The Fort Norman plant produces gasoline and fuel oil.

Refinery Incorporation

LETHBRIDGE, Alberta, July 18.—Huff Refinery Co., Ltd., has been incorporated with capitalization of $50,000 and head office at Lethbridge. Floyd J. Huff, formerly of the Regal Oil & Refining Co. of Calgary, is head of the company.

New West Texas Plant

FORT WORTH, Tex., July 20.—West Texas Oil & Refining Co. is now erecting a small skimming plant just west of the city limits of Sweetwater in West Texas. H. H. Byrd, Edna Mae Byrd and Glenn L. Byrd, residents of that city, were granted the charter for the company.

Relaying Gas Mains

MOORETOWN, Ontario, July 18.—The paving in villages along Highway No. 21 between Wallaceburg and Sarnia is necessitating the relaying by Union Gas Co. of both low and high-pressure mains through the villages, the lines, at present beneath the highways, being transferred to the sides of the road. The changes will involve about two weeks' work.

Natural Gas News

Oppose Wichita Extension

TOPEKA, Kans., July 20.—Two complaints against the granting by the city of Wichita of an extension of the franchise of the Consolidated Gas Utilities Corp. were filed with the Kansas Corporation Commission. One was filed by E. L. Campbell and 14 citizens of Wichita, and the other by Gas Service Co., operating unit of the Doherty organization in Kansas.

Both complaints set out the extension of territory permitted Consolidated by the franchise was unfair, unjust and unreasonable and provided for a duplication of service and equipment which the consumers ultimately would have to pay for in their gas rates.

Stay on Refunds

An order of the Oklahoma Corporation Commission directing a refund of $165,000 to consumers served by the Community Natural Gas Co. was stayed until July 31 by the State Supreme Court. The refund, affecting approximately 8,000 residents of 26 southeastern Oklahoma cities, was ordered by the Corporation Commission June 6.

In its appeal, the gas company asked it be permitted to file a supersedeas bond staying execution of the refund until the appeal has been decided. The $165,000 represents alleged excessive rates charged by the company since 1931, the commission said.

Wichita Falls Appeal

AUSTIN, Tex., July 20.—District Judge Ralph W. Yarborough overruled motions for a new trial and rendered judgment reducing gas rates at Wichita Falls.

The case was tried here several months ago. The Community Natural Gas Co. appealed from a Railroad Commission order reducing the domestic rate at Wichita Falls from 67½ cents to 61 cents per 1,000 feet. Judge Yarborough's decision upheld the rate.

Refunds were ordered made to consumers for the difference between the rates from December 1, 1933, to March 31, 1935, and thereafter.

Attorneys for the gas company gave notice of appeal and the court fixed a supersedas bond at $150,000. The company alleged 275 grounds for a new trial.

St. Thomas Gas Proposition

ST. THOMAS, Ontario, July 18.—The St. Thomas Public Utilities Commission has formally approved the offer of Dominion Natural Gas Co. of Buffalo of $150,000, in payments covering a two-year period, for the local distributing plant. The offer is coupled with the granting to the company of a 10-year natural gas franchise, with the same rate schedule as in London, Ontario. The company plans to spend $30,000 in changing the system from artificial to natural gas. The Public Utilities Commission has recommended an early vote of the people on the proposition.

Carbon Black Operations in 1935

The carbon black industry, which had made marked progress in 1934, enjoyed a profitable year in 1935, states the Bureau of Mines in its final report. Production was 352,749,000 pounds, exceeded only by the totals of 1929 (366,442,000 pounds) and 1930 (379,924,000 pounds). Demand reached a new peak, total domestic and export sales being 387,536,000 pounds, compared with the record of 374,468,000 pounds in 1933. Stocks at the plants were materially reduced in 1935, only 136,086,000 pounds, or a little more than four months' supply, being on hand December 31, compared with 171,799,000 pounds at the beginning of the year. The increase in prices, which occurred about the beginning of 1934, was maintained in 1935, the average value at the plants being 3.90 cents, compared with 3.54 cents in 1934.

The production of carbon black outside of the Texas Panhandle decreased slightly in 1935, hence the center of the industry moved nearer to the Texas Panhandle. The output in Louisiana declined from 66,538,000 pounds in 1934 to 64,875,000 pounds in 1935; probably due to curtailment in available supplies of natural gas due to increased pipe line requirements. Production in the Texas Panhandle rose to a new record of 263,361,000 pounds, an increase of 11 per cent over 1934. Two new plants were operated in the Panhandle during 1935.

There was 241,589,000,000 feet of natural gas burned in the manufacture of carbon black in 1935, compared with 229,933,000,000 feet in 1934. The 1935 figure was equivalent to about 13 per cent of the total consumption of natural gas in that year. The average yield of carbon black in 1935 was 1.46 pounds per 1,000 feet, compared with 1.43 pounds in 1934.

Sales of carbon black by manufacturers to brokers and consumers in 1935 totaled 387,536,000 pounds, of which 245,351,000 pounds (63 per cent) was consigned to domestic buyers and 142,185,000 pounds (37 per cent) was exported. Of the domestic deliveries, 213,708,000 pounds (87 per cent) was consigned to rubber companies, 15,177,000 pounds (6 per cent) to ink companies, 6,550,000 pounds (3 per cent) to paint and varnish companies, and 9,916,000 pounds (4 per cent) to companies producing miscellaneous products. Compared with 1934, these data indicate increases in the percentages utilized in rubber and miscellaneous products, virtually offset by a decline in the percentage utilized in ink. The increase in sales of carbon black to rubber companies in 1935 reflects a gain of 10 per cent in consumption of rubber, including both crude rubber and reclaimed rubber.

Exports of carbon black totaled 142,185,000 pounds in 1935, an increase of 18 per cent over 1934. The United Kingdom continued to be the leading customer, but Germany displaced France in second place. The total value of carbon black exports in 1935 was $6,673,000, an average of 4.69 cents per pound, compared with an average of 4.59 cents in 1934.

The primary statistics of the carbon-black industry in 1934 and 1935 were as follows:

	1934	1935
Number of producers reporting	25	21
Number of plants	50	54
Quantity produced (pounds):		
Louisiana	66,538,000	64,875,000
Texas:		
Breckenridge	*24,887,000	*24,513,000
Panhandle	237,403,000	263,361,000
Total Texas	*262,290,000	*287,874,000
Other states	(*)	(*)
Total	328,828,000	352,749,000
Produced by:		
Channel process (lbs.)	293,546,000	316,284,000
Other processes† (lbs.)	35,282,000	36,465,000
Stocks held by producers December 31 (lbs.)	171,799,000	136,086,000
Sales, domestic: (lbs.)		
To rubber companies	165,446,000	213,708,000
To ink companies	16,146,000	15,177,000
To paint companies	5,365,000	6,550,000
To miscellaneous companies	5,036,000	9,916,000
Total	191,992,000	245,351,000
Sales, exports (lbs.):		
United Kingdom	37,697,000	38,982,000
France	22,726,000	19,000,000
Germany	16,499,000	23,106,000
Other	43,698,000	61,097,000
Total	120,620,000	142,185,000
Value (at plants) of carbon black produced:		
Total (dollars)	11,654,000	13,755,000
Average per pound (cents)	3.54	3.90
Estimated quantity of natural gas (M cubic feet)	229,933,000	241,589,000
Average yield per M cu. ft. (lbs.)	1.43	1.46

*Oklahoma and Wyoming included with Breckenridge district. †Roller, "special", thermatomic, and Lewis.

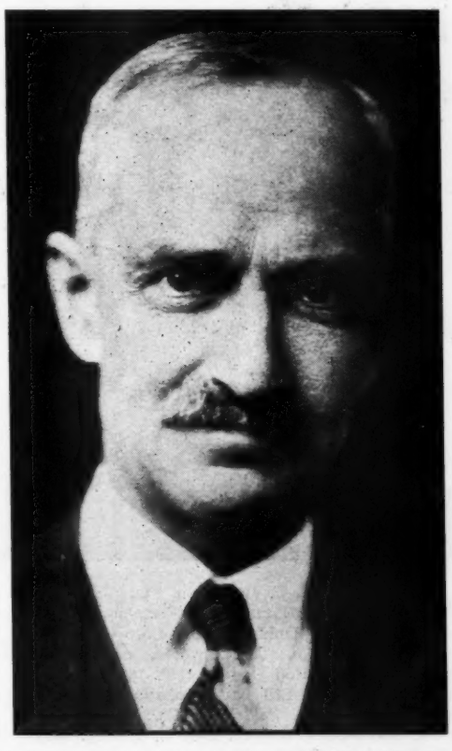
Grand Rapids Dispute

MUSKEGON, Mich., July 20.—Legal action by the Michigan Public Utilities Commission is expected against Grand Rapids Gas Light Co., which met the commission's order approving a 50-50 mixture of natural and manufactured gas for Grand Rapids, Mich., on August 1 by turning 100 per cent natural gas from the tri-townships field into its new 45-mile line.

It was reported in Lansing Consumers Power Co., operators of lines serving Lansing, Bay City, Saginaw and 40 smaller communities with 100 per cent natural gas from the same field, might join in an injunction suit to prevent the Grand Rapids company from serving Grand Rapids.

The Grand Rapids company, subsidiary of the American Light & Traction Co., Chicago, completed changeover of customers' equipment in three smaller communities adjoining the city Saturday and will start in Grand Rapids in 10 days.

NOMINATED BY A.G.A.



Herman Russell, president Rochester Gas & Electric Corp., Rochester, N. Y., nominated for president of American Gas Association

Natural Gasoline

New Gasoline Plant Planned

FORT WORTH, Tex., July 20.—Empire Gas & Fuel Co. plan construction of a natural gasoline plant in north Cowden pool, about 12 miles north of Odessa, Tex.

Shamrock Awards Contract

DENVER, Colo., July 18.—The Shamrock Oil & Gas Corp. of Amarillo, Tex., has awarded a contract to the Stearns-Roger Manufacturing Co. of Denver, covering turnkey construction of a large butane polymerization plant in Moore County, Tex. The installation will be built adjacent to Shamrock's McKee absorption gasoline plant. Stearns-Roger will furnish all equipment, materials and labor under the engineering supervision of Universal Oil Products Co., of Chicago. Construction is to proceed immediately.

Gasoline Plant at Britton

Del Ray Production Co. will start construction work next week on a natural gasoline plant in section 20-13-3w, Britton area, Oklahoma County, Oklahoma. It is announced that the plant will have a capacity of 30,000,000 feet of gas per day and output capacity of 10,000 gallons of gasoline per day. The company expects to find a market for the residue gas in the Oklahoma City field, to be used for repressuring. The plant is scheduled to be ready for operation in about 60 days.

U. S. Bureau of Mines Forecast of Demand During August

Domestic Demand.—The domestic motor fuel demand for August is estimated as 46,850,000 bbls., a daily average of 1,511,000 bbls., or 9 per cent above the 42,836,000 bbls. demand for August, 1935, and 370,000 bbls. over the July, 1936, estimate. Since the August index of seasonal variation, formerly more than 1 per cent above that for July, is now only slightly above it, practically all this gain is due to the upward trend in gasoline consumption.

Exports.—Motor-fuel exports have been estimated at 2,600,000 bbls., an increase of 200,000 bbls. over the estimate for July, but 222,000 bbls. less than actual for August, 1935.

Stocks.—Stocks of finished and unfinished gasoline on May 31 were 71,605,000 bbls. According to the A. P. I., stocks declined approximately 3,100,000 bbls. during June compared with the Bureau's recommendation of 4,010,000 bbls. This would indicate there was approximately 68,505,000 bbls. of motor fuel on hand on June 30, or about 9,000,000 bbls. more than June 30, 1935.

The recommended withdrawal for August has been set at 5,000,000 bbls., slightly higher than the July recommendation and 1,800,000 bbls. more than the recommended withdrawal for August, 1935.

Gasoline Production.—Motor benzol production and "direct" sales and losses of natural gasoline have been reduced from 900,000 bbls. in July to 860,000 bbls. in August. Addition of exports, and deduction of stock decrease and "direct" sales, gives 43,590,000 bbls. as the required production of finished and unfinished gasoline in August, 1936, distributed among the districts as follows (thousands of barrels): East Coast, 6,720; Appalachian, 1,720; Indiana-Illinois, 7,470; Oklahoma, 3,000; Kansas-Missouri, 2,750; Texas Inland, 3,360; Texas Gulf, 8,940; Louisiana Gulf, 1,520; Arkansas-Louisiana Inland, 1,170; Rocky Mountain, 1,050; California, 5,890.

Runs to Stills.—The estimate of the ratio of natural gasoline used by refiners to the total production of gasoline is 6.0 per cent. Application of this percentage to gasoline output gives 2,620,000 bbls. of natural gasoline to be utilized at refineries, leaving 40,970,000 bbls of gasoline to be made from crude. The estimated yield of cracked and straight-run gasoline is 44.815 per cent, a decrease of .02 per cent from July. Applying this percentage to total refinery gasoline gives 91,420,000 bbls. of crude required for runs to stills.

Imports.—Runs to stills of foreign crude for August are estimated at 3,000,000 bbls., same as for July.

Exports, Fuel and Losses.—Crude Oil exports for August are estimated at 4,400,000 bbls., and losses and consumption of crude as fuel are estimated at 2,100,000 bbls., both same as for July.

Stocks.—The same suggestion in the July recommendations applies equally for August—that operators take advantage of the heavy demand to reduce crude stocks. Provision has been made for the withdrawal of 125,000 bbls. daily from crude stocks compared with 112,500 bbls. recommended in July.

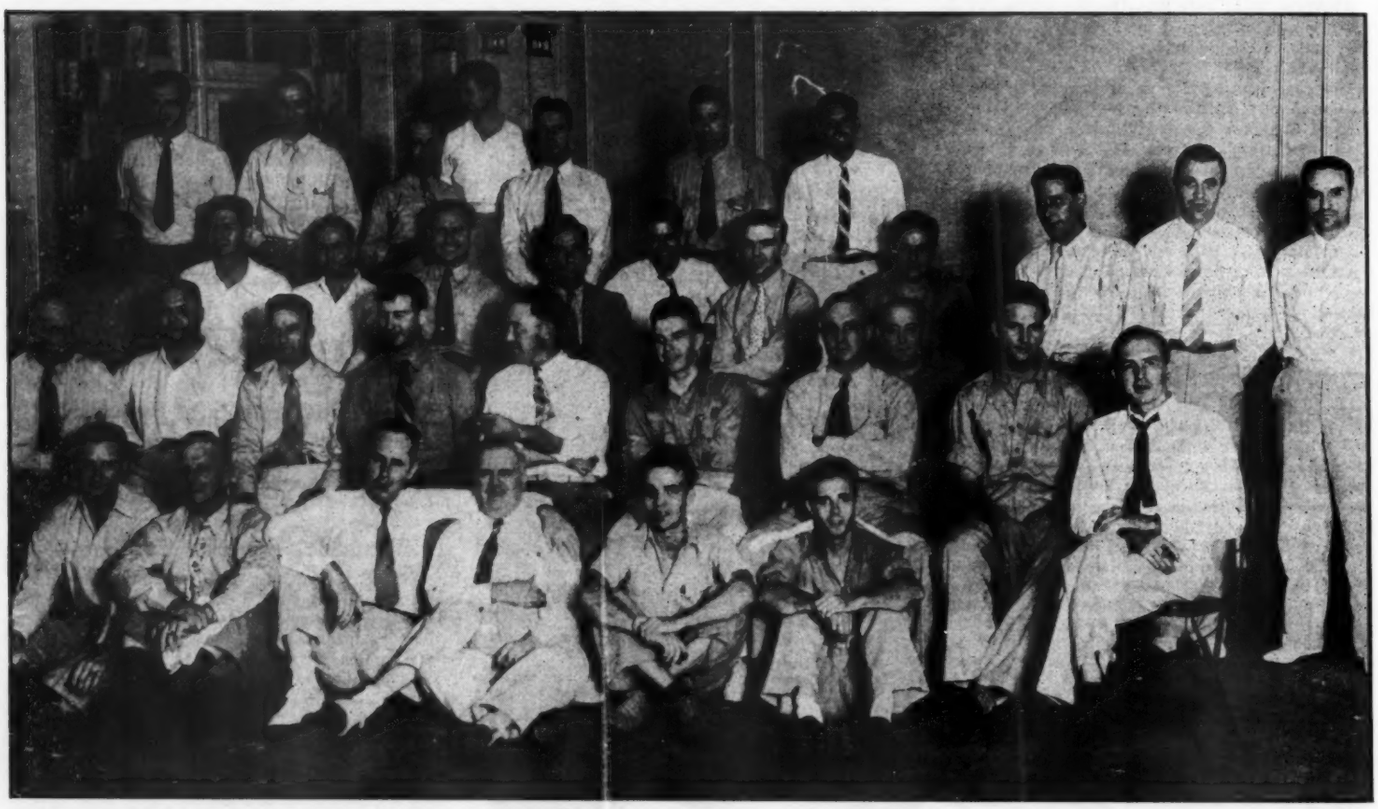
Required Production.—The proper additions and subtractions give 91,045,000 bbls. as the required production in August, 1936, a daily average of 2,936,900 bbls., distributed by states as follows:

TABLE 1—RECOMMENDARY LEVELS OF REQUIRED CRUDE OIL PRODUCTION BY STATES

(Daily averages in barrels)

STATE	July, 1936	Aug., 1936
Texas	1,146,500	1,154,700
Oklahoma	569,800	575,500
California	550,800	550,000
Louisiana	186,800	188,500
Kansas	164,200	166,500
New Mexico	69,400	70,100
Pennsylvania	44,500	46,300
Wyoming	38,800	38,600
Michigan	33,800	32,400
Arkansas	31,300	31,200
Kentucky	14,900	14,800
Montana	13,400	13,900
Illinois	12,400	12,600
New York	12,500	12,500
Ohio	11,100	11,300
West Virginia	10,300	10,900
Colorado	4,700	4,700
Indiana	2,000	2,400
Total	2,917,200	2,936,900

OIL SCOUTS IN SOUTH LOUISIANA DISTRICT ENTERTAINED AT BARBECUE



This group of South Louisiana oil scouts was entertained at a barbecue dinner at Lake Charles by H. T. McLain, manager and director of the Charleston Hotel, who was honored with a life membership in the scouts association.

Reading left to right: Top row—J. R. Clark, Gulf Refining Co.; J. Swayze, Fohs Oil Co.; A. J. Arceneaux, Adams-Louisiana Co.; E. S. Mackey, Texas Co.; J. M. Lilly, Pan American Production Co.; J. G. Heyck, Humble Oil & Refining Co.; Baker Hoskins, Shell Petroleum Corp.

Second row—W. E. Merriman, Stanolind Oil & Gas Co.; Paul L. Davis, Shell Petroleum Corp.; Truman Branton, Gulf Refining Co.; George A. Gammill, Texas Co.; C. A. Storer, independent; Harry Kilian, United Gas Co.; T. R. Deen, Jr., Gulf Refining Co.; Bill Lark, Fohs Oil Co.; J. C. Hemphill, Magnolia Petroleum Co.; M. C. Chavanne, Magnolia Petroleum Co.; E. L. Fry, Magnolia Petroleum Co.

Third row—Ole Silcott, Union Sulphur Co.; E. J. Pitre, Pure Oil Co.; N. A. Pereira, Gulf Refining Co.; W. R. Canada, Stanolind Oil & Gas Co.; Ray Kinkaid, Continental Oil Co.; Malcolm James, Sun Oil Co.; L. A. Williamson, Gulf Refining Co.; Thad K. Wynn, Sinclair Oil Co.; Gayle Griffin, Superior Oil Producing Co.; J. S. Kirkendall, Amerada Petroleum Corp.

Bottom row—George Barineau, Pure Oil Co.; Harry Byers, Texas Iron Works; Ed Kirker, independent; Harry T. McLain, Charleston Hotel (host); J. S. Buchanan, Fohs Oil Co.; Paul Morvant, Tide Water Oil Co.

High octane spreading

"Consolidation of Western Petroleum Refiners Association with Louisiana-Arkansas Refiners Association into one organization, and the addition of new members in East and North Texas, is announced, effective July 1"——TULSA WORLD

What does that mean?

It means 15 more refining companies adopt the new W P R A high octane standard—68 minimum for regular grade

It means more marketing territory where it will be harder to sell straight-run gasoline—or half-cracked gasoline

It means a break for the Dubbs refiner

Dubbscracked gasoline sets its own high octane standards—and mileage standards

There is never enough to go round

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Dubbs Cracking Process
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PERFORMANCE
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Federal Regulation of Pipe Line Rates Awaits Surveys by I. C. Commission

By HUGH D. MALLON

WASHINGTON, D. C., July 20—Investigations and studies being currently carried on by the Interstate Commerce Commission presage eventual regulation of pipe line transportation charges and practices somewhat similar to regulation of railroads by the commission in the opinion of some observers here.

Three studies are now under way at the commission, two nearing completion and the third well started. One involves setting up uniform accounting systems for pipe line companies in interstate transportation. The second is a valuation study of pipe lines, considering both depletion and depreciation. The third and perhaps most important immediately is the study of pipe line rates brought about by the reduction in 1934 of charges on practically all pipe lines in the Mid-Continent.

It is probable that within two or three years which it will take to work out the finished details the results will be correlated as the basis for establishment of rate tariffs. Whether there will be any action before that time to reduce rates is problematical, although J. Paul Kelley, examiner for the commission, recommends a reduction of 35 per cent in rates, as well as a lowering of the minimum tender requirements.

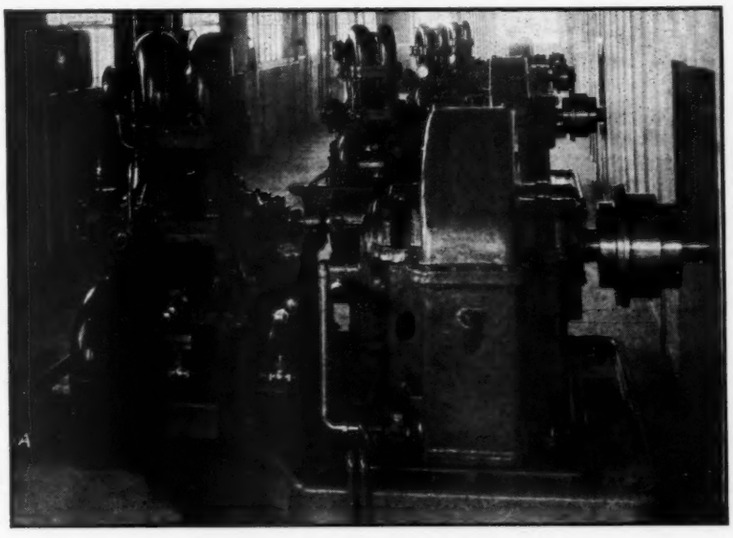
At an oral argument before the commission, probably in October, the petition of the companies will be heard. Briefs supporting their contentions that action should await the valuation and depreciation surveys before disturbing the present arrangement have been filed. Mr. Kelley in his report to the commission held that earnings of the pipe lines, as reflected in dividend records, was sufficient justification for an order to show cause why rates should not be reduced at least 35 per cent. This has been attacked in the briefs as a premature conclusion on the part of Examiner Kelley, due to his report considering only capital investment, whereas, if the commission awaits the valuations and depreciation schedules it will have a full and complete picture upon which to base any order.

The respondents also brought out that a flat 35 per cent reduction in all rates was impracticable, due to the great difference in rates in various parts of the country. Shell Pipe Line Corp. in its brief stated the company had no objection to reasonable reductions in some of the present trunk line rates provided consideration be given to the value of the service and the hazards of pipe line operation, as well as to the earnings.

Whether the plea of the pipe line companies that the commission delay decision until after completion of the surveys now under way will be adversely affected by the brief filed by Standard Oil Co. of Ohio and National Refining Co. asking the commission to go ahead with the proposals to lower rates, is problematical.

The Standard of Ohio-National brief states, "The returns which have been made by the respondent pipe lines clearly constitute a prima facie case for the condemnation of the present trunk line rates for the transportation of crude petroleum from the Mid-Continent field. The earning under the rates, on and prior to December 31, 1933, as reflected in the dividend records of the respondent pipe lines, are so extravagently high, compared with the slight reductions which were made in the trunk line rates during 1934, that the conclusion which is reached in the proposed report necessarily follows.

"There is no need to wait until depreciation rules have been established and valuation proceedings completed before continuing this inquiry into pipe line rates. The investment of the respondent pipe lines as of December 31, 1933, is a matter of record in this proceeding, as is also the amount of accrued depreciation as of that date. The gross operating income of each of the respondent pipe lines for the years 1929 to 1933 inclusive and the cost of performing their transportation services are also matters of record. The dividends paid during this same five-year period are also on this record."



Stanolind pumping station in Fitts pool, Oklahoma

A schedule showing dividends paid during this five-year period, investment as of December 31, 1933, and investment less accrued depreciation on that same date, is included in this brief, which is analyzed in the brief with the statement, "The total of dividends paid by all 17 companies listed above during the period 1929 to 1933, inclusive, was 98 per cent of the aggregate total investment of all of these companies as of December 31, 1933, and 183 per cent of the aggregate investment of all of these companies as of that date, less accrued depreciation."

The brief further stated that cost of transporting oil as submitted in questionnaire form to the commission does not properly show the per mile cost of transporting the oil. This statement is made because the per mile costs of transportation were based on the aggregate number of miles operated by each system and averaged by the total amount of oil shipped over all routes. It is the contention of Standard of Ohio and National Refining that if this was segregated it would show higher profits than the record indicates, as well as much lower cost per mile figures for the majority of the pipe line mileage.

"The margin between the costs of pipe line transportation and the published rates must be narrowed, or else those refiners who do not own pipe lines will be forced out of existence," the brief says. Independent refiners located near the producing fields will not be injured from such reduction, the statement continues, because the costs of pipe line transportation to those refining companies that own pipe lines, and not the published pipe line rates, are now the controlling factor in determining the extent to which petroleum refining companies can extend their marketing operations.

Neither the Standard Oil Co. of Ohio nor National Refining Co. have pipe line facilities, both being refining and marketing companies.

This proceeding started June 11, 1934, with a complaint and protest for suspension of certain tariffs filed with the commission by several pipe line companies affecting reductions in gathering line and trunk line rates on crude oil from the Mid-Continent area. The request for suspension was filed by the Louisiana-Arkansas Refiners Association by John E. Shatford, president.

The argument at that time offered by Shatford was that there should be no reduction in the rates whatsoever because such reduction would work adversely to the interests of the refiners located in the field who must necessarily rely on the railroads to transport their products to the marketing areas for consumption.

At the hearing on this complaint Shatford was the only witness, no representative of the pipe line companies taking the stand, although representatives of most of the companies involved were present. The immediate result of this was the decision by the commission to make a thorough investigation and report on pipe line rates in general. The points under contention at present were contained in the proposed report of J. Paul Kelley, commission examiner, who handled the investigation and compiled the report.

Opinion of lawyers who practice before the Interstate Commerce Commission and who know the procedure of the commission is that great care will be taken before any revolutionary changes are made in the regulation of pipe line rates. Even today, after all the years of rate regulation of railroads, they point out, no drastic changes are made in any rate structure without full, adequate and complete investigation of all angles. For this reason they point out that precedents favor delay of action until the valuation and depreciation studies are complete and analyzed.

Market Outlet Provided

GRAND RAPIDS, Mich., July 11.—The Consumers Power Co. has completed a 5-mile gas line connecting the New Haven-Sumner Township gas field with its main line from Tri-Townships to Lansing. Eight commercial wells, ranging from 2,000,000 to 13,000,000 feet in daily open-flow capacity, from the Michigan Stray sands at less than 1,000 feet deep, thus are provided their first market outlet.

Export Demand Gain Contributed to Stability Shown in May Operations

A large increase in the export movement of refinery products aided materially in maintaining a healthy balance between supply and demand in oil operations during May, according to data compiled by the Bureau of Mines. The domestic gain in demand for refinery products, while substantial in most cases, was not as impressive as in earlier months, a situation which would have been reflected in unfavorable statistical developments had it not been for the increased foreign demand.

The export movement of crude oil and refinery products in May totaled 12,226,000 bbls., a gain of 2,480,000 bbls. or 25 per cent over the total of 9,746,000 bbls. in May, 1935. This compares with an increase of a little less than 6 per cent in the domestic demand for refinery products. The gain of 2,480,000 in shipments to foreign buyers meant an additional market of 80,000 bbls. daily for domestic producers and refiners.

Among the products, exports of gasoline jumped to 2,702,000 bbls. in May and foreign shipments of fuel oil were approximately 50 per cent greater than in April. Exports of lubricants jumped to 29,000 bbls. daily from 19,000 bbls. in April of this year and May of last year. Export shipments of wax also increased.

The export movement of refinery products often varies widely from month to month in the reports of the Bureau of Mines and the May data do not assure a continuance of that demand through the summer months. There have been other indications, however, that important foreign markets were once more looking to the United States for a part of their supplies, and this may mean a continuance of a trend apparent over the past year in which export outlets for most products have expanded. The export demand for crude oil has also increased this year as shown.

Aside from the development in export markets the May report does not show important changes in either supply or demand. For the entire five months the large increase in supply of crude oil is practically the same as the gain in demand so that stocks on May 31 were only 538,000 bbls. greater than at the start of the year.

While demand for fuel oil and gas is ahead of last year, the gain in supply due to increased runs to stills brought increases in storage in May. These gains more than offset the reductions in gasoline stocks so that total stocks of all oils increased more than 3,000,000 bbls. in May. The gains in fuel oil and gas oil inventories are partially seasonal.

Crude Oil and Refinery Situation Summarized — First Five Months

Supply and Demand—Crude Oil (Bbls.)

First 5 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude May 31
1936	458,579,000	458,041,000	*538,000	*.1	445,726,000	12,853,000	440,212,000	17,829,000	315,169,000
1935	406,401,000	405,096,000	*1,305,000	*.3	393,847,000	12,554,000	388,253,000	16,843,000	338,559,000
Increase, 1936	52,178,000	52,945,000	.....	.....	51,879,000	299,000	51,959,000	986,000	†23,390,000
Increase, 1936	12.8%	13.7%	.....	.....	13.1%	2.3%	13.3%	5.8%	†6.9%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

First 5 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks May 31§
1936	203,414,000	187,420,000	15,994,000	7.8	203,414,000	.....	176,331,000	11,089,000	77,209,000
1935	180,669,000	171,243,000	9,426,000	5.2	180,649,000	20,000	161,668,000	9,575,000	67,460,000
Increase, 1936	22,745,000	16,177,000	.....	.....	22,765,000	.....	14,663,000	1,514,000	9,809,000
Increase, 1936	12.5%	9.4%	.....	.....	12.5%	.....	9%	15.8%	14.5%
Kerosene									
1936	23,527,000	24,761,000	1,234,000	3.9	23,526,000	1,000	22,401,000	2,360,000	6,681,000
1935	23,816,000	22,919,000	*897,000	3.7	23,816,000	.....	20,151,000	2,768,000	7,295,000
Increase, 1936	289,000	1,842,000	.....	.....	†290,000	.....	2,250,000	†408,000	†614,000
Increase, 1936	†1.2%	8%	.....	.....	†1.2%	.....	11.1%	†14.7%	†8.4%
Gas Oil and Fuel Oil									
1936	183,836,000	185,825,000	1,989,000	1.1	176,930,000	6,906,000	171,526,000	14,299,000	101,995,000
1935	153,630,000	163,850,000	10,220,000	6.6	144,650,000	8,980,000	154,481,000	9,369,000	100,177,000
Increase, 1936	30,206,000	21,975,000	.....	.....	32,280,000	†2,074,000	17,045,000	4,930,000	1,818,000
Increase, 1936	19.6%	13.4%	.....	.....	22.3%	†23.1%	11%	52.6%	1.8%
Lubricating Oils									
1936	12,483,000	12,625,000	142,000	1.1	12,483,000	.....	9,004,000	3,621,000	6,884,000
1935	11,155,000	11,589,000	434,000	3.8	11,155,000	.....	8,192,000	3,397,000	6,897,000
Increase, 1936	1,328,000	1,036,000	.....	.....	1,328,000	.....	812,000	224,000	†13,000
Increase, 1936	11.9%	8.9%	.....	.....	11.9%	.....	9.9%	6.6%	.....
Petroleum Wax (Lbs.)									
1936	209,866,000	203,125,000	*6,741,000	*3.3	203,000,000	6,866,000	123,720,000	79,405,000	121,416,000
1935	205,261,000	195,415,000	*9,846,000	*5.0	193,760,000	11,501,000	108,795,000	86,620,000	145,982,000
Increase, 1936	4,605,000	7,710,000	.....	.....	9,240,000	†4,735,000	14,925,000	†7,215,000	†24,566,000
Increase, 1936	2.2%	3.9%	.....	.....	4.7%	†41.1%	13.7%	†8.3%	†16.8%

*Excess supply. †Decrease. Note—Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments. ‡Crude oil only. §Includes finished, unfinished refinery gasoline and natural gasoline.

Crude Oil Runs to Stills and Total All Oils (Bbls.)

First 5 months—	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Nat. gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils May 31
1936	22,155,000	50,197,000	427,767,000	46.1	16,767,000	485,718,000	472,995,000	554,423,000
1935	21,712,000	43,086,000	378,381,000	46.4	15,614,000	431,904,000	427,712,000	568,340,000
Increase, 1936	443,000	7,111,000	49,386,000	....	1,153,000	53,814,000	45,283,000	‡13,917,000
Increase, 1936	2%	16.5%	13%	....	7.3%	12.4%	10.6%	†2.4%

*Total all oils includes crude refined products, natural gasoline and benzol. †Decrease. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports. ‡Includes natural gasoline blended at refineries.

Oil News from Foreign Lands

Colombia-Peru Production

A slight reduction in crude oil production from both Colombia and Peru was registered during June compared with the preceding month, but output for the first half of this year is roughly 661,000 bbls. above the corresponding period in 1935.

COLOMBIA PERU

International Petroleum Co., Ltd., which owns the bulk of production in Colombia and Peru, registered output of 50,997 bbls. daily from the former country during June and 42,085 bbls. from the latter. In May, Colombia production was approximately 51,566 bbls. and Peru's petroleum yield was 41,320 bbls. daily plus an estimated average of 6,000 bbls. daily from properties of Lobitos Oilfields, Ltd.

For the six months this year, Colombia produced 9,262,279 bbls., compared to 8,624,719 bbls. during the same period in 1935, and Peru's yield was 7,279,174 bbls. this year compared to 7,255,237 bbls. last year.

CRUDE OIL PRODUCTION
(Figures in barrels)

Colombia

Month—	1936	1935
June	1,629,901	1,518,460
May	1,598,544	1,486,896
January-June	9,262,279	8,624,719

Peru

June	1,262,543	1,240,281
May	1,308,650	1,281,189
January-June	7,279,174	7,255,237

A decision by the Colombian minister of industry attempting to prevent a charge of 1 centavo per liter for delivering petroleum products to Galan on the Magdalena River from Tropical Oil Co.'s refinery at Barrancabermeja has been appealed to the country's supreme court. The Colombian minister has taken the attitude that the transportation charge is a breach of contract due to the Tropical company's obligation to sell products on the basis of New York harbor quotations. The Tropical company, operating subsidiary of International Petroleum Co., Ltd., justifies the charge of 1 centavo per liter on the grounds that it was forced to make additional capital outlay in building a pipe line from its refinery site to the port of Galan, a distance of 2 kilometers.

Labor Troubles Unsettled

Complete disruption of the petroleum industry in Mexico was regarded at the close of last week more than an outside possibility with approximately 5,000 employes of two leading producers out on strike and threats that others will follow. The Mexican Eagle Oil Co., Ltd. (Aguila), subsidiary of the Royal Dutch-Shell and largest producer in Mexico, was the latest operator to suffer from labor disputes. Approximately 4,000 employes of the Aguila company ceased work July 10 and had not returned to the company's producing properties on the Isthmus at the close of last week. Although the Aguila's refinery and docks at Tampico were last reported still in normal operation, the strikers were demanding allegiance from their countrymen in pressing for additional demands.

MEXICO

On July 15, a general work stoppage order was issued from all labor unions bringing a full 24-hour shutdown of all branches in the petroleum industry. Lack of further detailed reports at the end of last week left the assumption among American oil executives in New York that the work stoppage order had terminated of its own terms at the end of 24 hours. The general shut down for 24 hours was reported from Mexico as a sympathy gesture toward the strikers.

Huasteca Petroleum Co., Standard of New Jersey subsidiary, has approximately 1,000 laborers out on strike and most of them have been idle for at least four months and about 400 workers have been out for six months.

The Mexican Labor Board submitted last week a set of terms under which it said settlement with workers would be attempted, if accepted by the Huasteca company. The company agreed to a majority of the provisions, but declined to approve stipulation that strikers receive 90 per cent of their normal wages for the entire duration of the strike. The company reserved the opinion that acceptance of such terms would be simply encouragement to strikers for a repetition of their disputes. The company's attitude was that full or nearly full payment to laborers without value received in services would be contrary to all principals of ethical relationship between management and employees.

The Penn-Mex Fuel Co., and Mexican Sinclair Co., subsidiaries of Consolidated Oil Corp., was threatened with a 100 per cent strike among its employes at the end of the week. The companies were served with a long detailed list of demands from laborers of which at least 25 were in excess of previous demands from the Huasteca company.

New Refinery Tests

Experimental and test runs are under way on the first U. S. S. R. steam phase cracking plant constructed at Mendeleyev refinery in the Yaroslavl province.

U. S. S. R.

Due to low pressures and limited heat at which the system operates, designers claim, expensive heat resisting fittings and connections are eliminated. Although detailed information is lacking, it is said that the system involves injection of air in certain phases of cracking. The incomplete oxidation of oil steam results in a rise of temperature and in disintegration into gasoline, gas and residue. The Soviet cracking method also involves washing of gasoline by means of zinc chloride. Dubrovai and Sheiman, Russians, are the designers.

Irish Refineries

Irish National Refineries, Ltd., a newly organized company under direction of Thomas C. J. Burgess, chairman and managing director of London & Thames Haven Oil Wharves, Ltd., has successfully concluded negotiations with the Irish Free State government for construction of a refinery, probably near Dublin. Construction of the refinery on Irish soil probably will close this country's markets to foreign refiners and marketers. During the first four months of 1936, Ireland's petroleum imports were at the rate of approximately 80,000,000 imperial gallons annually. The Irish National Refineries Co., with capital of more than £2,000,000, is expected soon to launch its refinery construction program, which will be the largest industrial development project launched in Ireland in a considerable time.

IRELAND

One other concern, Cork Harbour Wharves, Ltd., holds license from the Irish Free State to process 3,000,000 gallons of petroleum under a tariff preferential arrangement in conjunction with Lobitos Oil Fields, Ltd. Greenmount Oil, Ltd., refines lubricating oil in Dublin while Vigzol Lubricants, Ltd., has a lube blending plant and C. C. Wakefield & Co., Ltd., recently installed a blending plant at Dublin. Irish Shell, Ltd., in conjunction with Alliance & Dublin Consumers Gas Co., blends motor fuel with benzol extracted from coal.

B.O.D. Program

Early expansion of the drilling and development program on the northern Iraq concession controlled by Mosul Oil Fields, Ltd., and the B.O.D., Ltd., is predicted in advices from the Far East. Control of the Mosul and B.O.D. companies is now reported resting in Italian hands and is probably accountable for the prediction that efforts to develop production will be expanded. More recent experiments with crude from the Mosul district is reported to have been encouraging to operators who anticipate no trouble in handling the production by pipe line.

IRAQ

In view of the later experiments, plans for construction of a pipe line to the Mediterranean are said to have been revived and that construction may be launched by the middle of 1937. British and German interests retain important holdings in the Mosul and B.O.D. companies.

Italy's desire and need for adequate oil supplies are accepted facts in the country's nationalization program. The government is now sponsoring an intensive geological survey of Abyssinia through the Association of Industry and Commerce. Test wells are reported progressing at Dancalia and Harar under supervision of the Bureau of Oil Research, but nothing to justify predictions that production will be developed has been encountered so far.

Meanwhile, considerable internal and external pressure is being directed at the Italian government over its order requiring all vehicles engaged in public hire to start using their own developed gases for motor fuel by the middle of 1937.

Italian scientists studying the order hold the belief that wood offers the only medium through which the letter and spirit could be observed.

However, it is probable that the Italian government would gladly rescind its public vehicle order if even a partially adequate crude oil supply can be developed on its holdings or on those of its subjects.

Tropical Oil Co. No. 1 Lisama, Colombia

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Precarious Proration

The heated discussion over Texas allowables at the Austin hearing last week emphasizes the fact that proration as it has been practiced in the various states is not perfect and requires further study.

While the primary purpose of proration is conservation the popular idea of it is curtailment of supply to meet demand. One is scientific, the other economic. Effective proration requires the combination of both.

There are many other factors to be considered besides restricting output to a specified market demand. Account must be taken of capital investment and a reasonable rate of return. In some phases there has been larger expenditure than could ever be hoped to get out. A proper method of proration would give thought to that.

Then in the matter of potentials no two states have the same method for calculating potentials. With all the engineering experience and knowledge available to the industry it would appear a less wasteful and more uniform method of taking potentials could be evolved that would give a better approximation of the potentials of the various states than is now obtainable.

Another factor of importance is the number of new wells completed from month to month after the allowable has been set. These seriously affect the balance. Really effective proration would require a close calculation on this point and its consideration in the allowable.

The fundamental essential in a sound proration system, however, is that it shall conform to correct engineering principles, assuring the largest ultimate recovery at the least cost. Failure to apply those principles has resulted in some astounding demonstrations of waste.

The weak points in present proration methods are well known. They have been obscured by concentration on allowables, rather than basic problems of proration.

The welfare of the industry rests upon a quota basis, the equitable allocation of required production between the producing states. Proration should be based upon a thoroughly formulated and well-digested system that includes both the scientific and economic aspects of the matter and for the good of the industry as a whole.

That is the immediate job of the Interstate Oil Compact Commission, to analyze, to correlate and coordinate the proration programs of the producing states into a workable uniformity equable to the states and practical for the industry. The industry expects definite results at the July 31 meeting of the compact commission when the committees named at the March meeting will present their reports.

The exigencies of the production situation require action without delay. Proration at present is too precarious. It must be established on a sounder and broader basis that will remove uncertainties and assure stability.

SUCKER RODS

for . . .

corrosive service

● Corrosive conditions in oil fields are not new but the damaging effect of such corrosion on steel subjected to repeated stressing was not properly recognized until recently.

Laboratory fatigue tests in the presence of corrosive waters and sulphides, and field tests in areas subjected to such influences have advanced to the stage that permits evaluating the performance of different grades of rods. National is prepared to furnish several grades to meet different operating conditions.

To make proper selection, however, a knowledge of the well condition is necessary and it is essential that the operator co-operates in determining this.

To properly manufacture these various rods National established a new factory at Carnegie, Pennsylvania. This plant is equipped with specially designed machinery and furnaces for the single purpose of making sucker rods—the best rods that it is possible to manufacture.

THE NATIONAL SUPPLY COMPANY

National

Gasoline and butane storage tanks near Borger, Tex. The three spheroids are used for 26-pound gasoline and the blimps for butane and raw feed gasoline

Hazards Involved in the Storing of Natural Gasoline

By G. W. McCULLOUGH
Phillips Petroleum Co., Bartlesville, Okla.

We who handle, work with and around natural gasoline are prone to forget the hazards involved. For this reason, it behooves everyone connected with the industry to "think" for the man who, through habit, becomes careless and neglectful of the hazardous product whose sales value pays us all a livelihood.

Let us make an imaginary plant inspection together, checking the plant layout and the various equipment and auxiliaries, starting our consideration of the process at the point where the finished product goes into plant storage, having been previously fractionated, treated and otherwise made ready to meet the market specifications. We find two types of plant storage in use, batteries of 7 feet by 30 feet or 10 feet by 40 feet horizontal tanks for pressures of from 30-300 lbs. for 12-26 lbs. R.V.P., natural, butane and propane storage, ordinarily used for temporary or intermediate storage, and large bolted, riveted or welded tanks of 5-, 10-, 12-, 20-, 35-, 50- and 80,000-bbl. capacities.

TANKS OF VARIOUS DESIGN

Due to the range of working pressures and problems of tank steel fabrications, we find a variety of odd-shaped tanks. In addition to the usual cone top, breather or floating roof type tanks of 25-, 50-, and 80,000-bbl. sizes, we see true ball-shaped tanks called spheres, 5-10,000 bbl. sizes, setting up on steel supports above the ground for 12 to 26-lb. R.V.P. products, spheroids of 5-, 10- and 20,000-bbl. capacities holding 26-lb. R.V.P. gasoline, whose cross-section resembles the ball after being dropped off of a 10-story building—slightly squashed. The latest addition to the spheroid line, also for 26-lb. R.V.P. product, is the 40- to 80,000-bbl. tanks, of the same general shape, except with a couple of extra wrinkles in the top and bottom; and last, blimps, huge, vertical cylinders with spherical top and bottom for butane storage, 65-lb. R.V.P.

These developments in design of tanks have been forced because of the change in the vapor pressure of the products handled. As these more volatile products were stored, the evaporation and handling losses began to go up when using the available low pressure tankage. The unavoidable release of these vapors presented an ever-increasing monetary loss and, at the same time, created a fire hazard for both property and personnel.

The practice in the past has been to locate such batteries of 7 feet by 30 feet, or 10 feet by 40 feet, tanks underground, or under sheds, to reduce the vaporization losses through protection from sunlight and atmospheric temperatures. Developments in steel tank fabrication and the use of heat reflective paints, insulations, water sprays, etc., now show it is more economical to build this tankage, to withstand the vapor pressure of the products to be stored, at a location advantageous for operations of blending and loading yet creating the minimum hazards.

TANK EXPOSURE

The subject of tank exposure, either to adjacent tanks or adjoining property, has been the source of much difference of opinion. While there is no set rule for spacing, as the result of considerable investigation by the A.P.I., and submitted in behalf of the oil industry to the fire insurance interests, it has been the accepted practice to space gas-tight steel tanks (particularly large tankage) at least one tank diameter, shell to shell, considering this spacing very reasonable and a safe precaution against exposure hazard. There have been recommendations made that the distance between tanks should be governed according to volatility of the product stored and provide distances to adjoining property of a maximum of two-tank diameters or 175 feet. However, no definite ruling is available and good judgment should rule in pressing this point, keeping in mind, at the same time, that an adequate fire wall capacity should be provided around each tank. This last precaution is made more because of the danger of line or connection leaks or breakage to allow confinement of the liquid, since most all natural gasoline will evaporate readily when exposed to atmospheric pressure and temperatures, than for "boil-over" capacity.

Unfortunately, the numerous cases of non-gas-tight tanks being ignited and the crude oil "boil-overs" (possible only with heavy ends of oil) following some of these fires have produced vivid impressions in the minds of many people of the ease with which an oil tank is ignited and the consequences following such ignition. Today, with gas-tight steel tanks provided with adequate vents and flame arrestors, the escaping vapors from a tank may be ignited and burn without damage to the tank itself. There is a hazard, of course, but not comparable to the non-gas-tight, wood-steel roofed, crude oil tank of the past. Further, the installation of vapor collecting and recovery systems practically eliminate the release of natural gasoline vapors directly from the tank to the air.

Due to the volatility of natural gasoline and its by-products, care is always taken in locating such tankage with respect to other plant equipment or adjoining property so that there is adequate fire wall capacity for the contents of the tank, or drain ditches provided to divert a stream of liquid away from the boiler house, office, laboratory, camp houses and other points of open fires. With a knowledge of prevailing winds, the tank locations can be made such that vapor leakage will be away from these known sources of open fires.

BUTANE VAPORS OFFER HAZARD

It should be remembered that hydrocarbon vapors, particularly propane and butane, are heavier than air and will, therefore, flow to low levels. Tankage should be placed so that, should leaks occur or vapors be released, there would not be a direct valley for these to flow toward open fires. We had an experience with vapors flowing several hundred feet and flashing from a burn-hole, from there burning back to the storage tanks, the flame never getting over 3 to 4 feet above the ground and traveling about as fast as a man can walk. We lost the battery of tanks when the flame arrived. One instance is reported of a fire resulting from the flow of vapors downward to a boiler plant 200 to 300 feet away.

Drains from tanks containing flammable liquids or from distillation units should not tie into drains from other tanks or buildings unless such adequate water or liquid seals are maintained that will prevent the leakage of such flammable vapors back through drain lines into other tanks or buildings. This is also true of sewage drains from houses tying into plant drains. In addition to water seals above described, manholes or other means of venting vapors should be provided at all points of drain line junction.

One of the advantages of underground storage tanks is the ability to confine leakage and, or, subsequent fire to the individual battery. This was very impressively emphasized a few months ago at our Denoya plant, in the Burbank field, when a battery of twenty 10 feet by 36 feet under-

ground butane storage tanks was ignited and the fire confined to the alleyway between the two rows until finally burning out.

TANK CONSTRUCTION AND CONNECTIONS

In considering any storage, large or small, it is understood that the material and workmanship of the tanks, supports, connecting lines, and fittings will be first class in all respects and built for the operating pressure with a reasonable factor of safety. (Adherence to A.S.M.E. Code is suggested). Even though these points were satisfactory at the time of installing the tanks, difficulties may arise to cause damage and failure. There are several solutions to this problem: Changes in design and piping hookup, switch materials used to combat difficulty, and continual inspection. We have had examples of all of these in our own operations and no single remedy is a "cure-all".

FOUNDATION AND SWING CONNECTION

In a battery of tanks, 10 feet by 36 feet, supported on a common set of concrete piers, there was sufficient contraction of the lines during a prolonged cold spell as to break a nipple in the threads where same was screwed into the tank connection. The result was that the entire contents of the tank drained out into the alleyway of the battery and was lost. A similar type break had occured two years earlier after a siege of prolonged rainy weather as the result of unequal settling of the concrete piers, throwing strains into the piping connections. Swings were finally installed on all inlet and outlet connections in the liquid space of these tanks to prevent repetition of these two failures. We have never experienced breaks in the vapor space connections that could not be temporarily repaired, and would not allow the large loss, and present the hazard encountered with breaks in the liquid zone.

On new large tankage we are using steel gates flanged directly to nozzles riveted or welded to the tank. Thus eliminating the hazard of pipe, thread or connection breaks. On small tanks we feel that swings are the solution to the expansion and contraction, and foundation settling problems. A battery of twenty 10 feet by 40 feet butane storage tanks are now being installed at Denoya plant with such a hookup. See Figure 1.

ANTI-FREEZE DRAINS

The difficulty of freezing and bursting drain connections, causing loss of tank contents and creating a fire hazard can be eliminated by the use of anti-freeze drains. A very inexpensive drain system was presented at the Natural Gasoline Association meeting at Tulsa, in May, by Mr. H. H. Hiatt, Mfg. Engr. in our Breckenridge district, and is shown on the same sketch as the swing connection—Denoya butane tanks.

LIQUID LEVEL GAUGES

The failure of gauge-glass cock to work through failure of the ball check to function or inability to turn the stem of the gauge due to corrosion or freezing, either of metals used in construction or from water present, presents a troublesome and hazardous problem. The solution to this trouble seems to be through the use of all iron or steel body gauges with an alloy trim to withstand corrosive service, hydrogen sulfide, sulfur, saline, acids, etc., but the replacement of ordinary steel parts confronts the management with a sizable expenditure for it takes a lot of gauges to fill the requirements of a natural gasoline plant and its storage.

In addition to the problem of providing materials to withstand corrosive service in the relief valves and vents, the problem of supplying adequate capacity for extreme conditions must be fully considered when placing these items on any tank. Unless proper materials are used we have no, or inadequate protection, for our tankage, either with excessive pressure or during periods of filling or pumping out. We have found relief valves stopped up, vents plugged from blowing sand, dust and insects, and a periodic testing procedure is the only sure way of knowing relief valves and vents are capable of functioning even though they are made of correct materials.

On small tankage for natural gasoline, butane, propane, and other relatively pure product storage, the vapor relief should be in duplicate, one set at a slightly lower pressure than the other. The vapors from the lower pressure relief going into a vapor recovery system, and the vapors from the higher pressure relief going to the air. The discharge lines for these relief valves should be extended beyond any buildings or other equipment to reduce the fire hazard. In no case should these discharge lines have low spots or pockets that would allow accumulation of moisture or other liquid and subsequent freeze-up during cold weather. We have had these relief line freeze-ups with the result of ruptured tanks.

On large tanks of medium pressure, 12,000-bbl., 64-lb. gauge working pressure tanks, two relief valves should be installed. One 2-inch to pop at approximately 2 lbs. under a 6-inch which has ample capacity to relieve the pressure on the tank with full pumping rates. This combination allows normal operation and momentary increases in vapor volumes to be relieved without difficulty by the 2-inch, where a 6-inch alone relieving these small volumes will open and close, chattering and damaging its seat in a very short time.

With the increasing use of natural gasoline in motor fuel, and higher percentages of butane used, the problem of blending usually demands installation of blending facilities in the storage tanks. It is indeed hard to prevent stratification of two or more gasolines in a single tank, and to obtain blends of uniformity, but with a minimum of evaporation losses these blending systems are a necessity. W have had two costly experiences, one, a tank with a blending system, and the other without. In both cases the blending operation was carried on at too high a rate for the capacity of the vapor relief valves with the result that the roofs of the tanks were ripped loose from the side walls. These were all steel tanks and fortunately we had no fires. While temporary repairs were made with shellac and burlap, the cost of repairs plus evaporation losses would have paid for a complete blending system, added relief valves, and several men's time.

The same experience from the vacuum relief system has been encountered in pumping out too fast to prevent pulling in the tank. The vacuum vent capacities should always exceed the pump capacity to allow for reduced vent capacities due to accumulation of dirt and other foreign substances.

FLAME ARRESTORS

Metal vent screens and/or flame arrestors will arrest flame only by reason of their ability to conduct the heat away very rapidly to adjacent solid metal parts, thereby preventing the formation of ignition temperatures on the other side of the wire screening. Tests by the Underwriters Laboratory of Chicago indicated that even with several thicknesses of wire screens if the distance from the center of the screen to solid metal be too great they will fail as flame arrestors. Vent screens on many of the old tanks today are merely ornaments, with little protective value, for tests have shown they will fail under service. The laminated aluminum plate type flame arrestors now being offered by various manufacturers seem to have overcome the heat conduction failure and no doubt will replace the present screen type.

The greatest fire hazard on large tanks is from open gauge hatches, manholes, defective vent screens or other non-gas-tight conditions that allow the vapors to be ignited outside and flashed back into the interior of the tank.

VAPOR DISPOSAL AND RECOVERY

The disposal of vapors from all tanks is a problem requiring a great deal of thought not only from the hazard angle but also from the economic viewpoint. Where several large tanks are grouped, or where one or more tanks are filled and emptied often, a vapor recovery system of common practice design or a vapor balloon recovery setup should be considered. Many of these systems are now installed on motor fuel, vapor recovery gasoline and upon natural gasoline tanks, and no description need be given them, but it can be said that they are reducing the hazard of vented vapors very markedly.

Where liquid inlet or blending lines are brought into a tank at a point considerably above the liquid level, it has been definitely proved that the falling streams of liquid produce static electricity. While the normal tank does not have a combustible mixture in the vapor space, the combustion hazard is always present. This type of connection has been largely replaced with bottom or submerged inlet which eliminates this hazard, and any tanks with top connections should be corrected.

The life of a storage tank under corrosive conditions, as the result of being subjected to hydrogen sulfide and sulfur compounds in the liquid stored, is dependent upon three factors: (1) percentage of hydrogen sulfide in gas; (2) percentage of oxygen in gas, and (3) percentage of water vapor in the gas.

In natural gasoline plants in sour gas areas we face the hazard of damage to all plant equipment as well as failure of storage tanks, hence we strive to eliminate the last two, or at least reduce their respective percentages in the inlet gas and from all steps of the plant processes, extending to and including the storage tanks, and thus prolong the life of all equipment. Our experience to date has proved that these factors govern very largely our maintenance expense from the corrosion angle. In some cases we have merely added an eighth-inch shell thickness over required shell weight when

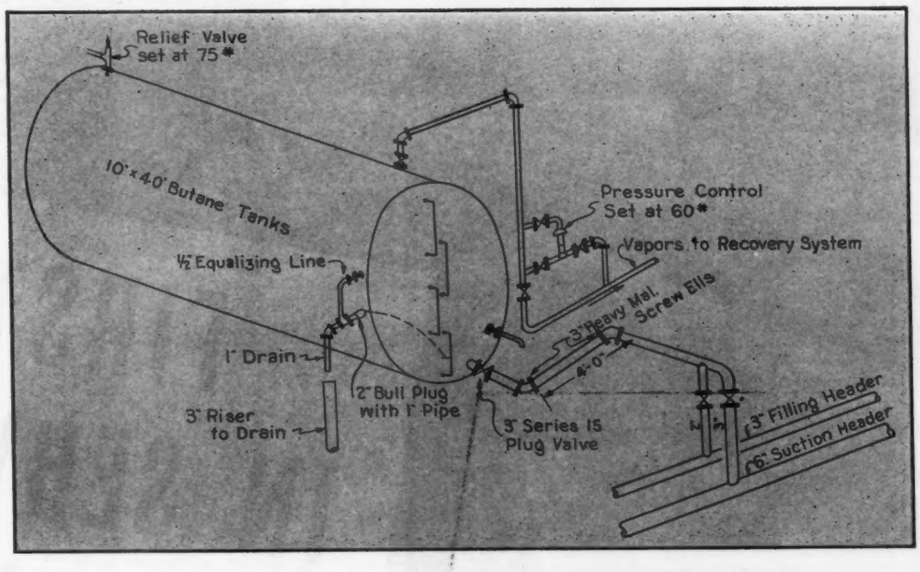

Fig. 1—Butane storage tank, showing swing connection and anti-freeze drain

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purchasing new storage tanks to offset corrosion evidenced after eight years of service, thus assuring us that our factor of safety will be maintained for at least this period.

STORAGE TANK CLEANING

The cleaning of gasoline storage tanks presents some hazards that must be given careful consideration. A "ground" should be provided when using a steam hose for washing concrete floors and equipment in buildings containing flammable products or around storage batteries, due to the phenomena of forming static electricity. With a very small steam outlet, sufficient static electricity is generated to arc and ignite flammable gases, vapors or liquids. In similar steaming operation inside gasoline storage tanks, Corona discharges have been observed generating sufficient electricity to ignite a combustible mixture. Hence, sufficient steam must be injected into any tank continuously when the steaming operation is once started to prevent cooling, condensation and possible inrush of air into the tank, allowing formation of combustible mixtures and potential fire and explosion hazards.

Another hazard is encountered when cleaning tanks used in "sour" storage. Rust and foreign matter will be found in considerable quantities, and if this material is analyzed, will be found to contain free sulfur, organic sulfides, iron sulfide and iron oxide. When this material is placed in the open, the iron sulfide, being pyrophoric, will absorb oxygen readily, heat to incandescence, burst into flame, and ignite any vapors or combustible gas present. With this condition it is best to remove the rust to some point remote from the tanks being cleaned. We have checked this several times and have had no trouble in starting fires intentionally with this refuse.

CONCLUSION

I believe that any material can be handled safely by a person who knows its characteristics, respects its limitations, and provides facilities to cope with its pecularities. But, I again repeat that we who work so close to our industry take a great many unusual and hazardous conditions as common knowledge and forget that the large percentage of our company's personnel do not have the same opportunity of making contacts, attending meetings, and discussing these problems. The man in the plant has little chance to change the design or type of equipment installed, but we should invite his constructive criticism of that which we give him to operate so that we can improve our new installations and correct past mistakes. The more often the plant operator sees educational bulletins on the plant notice boards, and the closer personal contact he is given through safety first meetings and first aid instructions, the more he becomes safety conscious and respects the hazards of his work; and, regardless of how, or if ever, he expresses his appreciation of the work the safety groups are doing, every man's job is more secure, which includes yours and mine.

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S. W. Lowman, geologist, formerly with Mid-Continent Petroleum Corp., Tulsa, has joined Shell Petroleum Corp. in Houston, Tex.

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TECHNICAL ABSTRACTS

Sapphire and Other New Combustion-Chamber Window Materials

By GEORGE CALINGAERT, S. D. HERON and RALPH STAIR

Before White Sulphur Springs, W. Va., meeting of the Society of Automotive Engineers

A study of materials available and suitable for the construction of transparent windows for observation inside of the combustion chamber is discussed by the authors, Calingaert and Heron being affiliated with the Ethyl Gasoline Corp. and Stair with the National Bureau of Standards. The authors state that materials which can be used include quartz, spinel, sapphire, periclase and fluorite. The transparency of these materials in the infra-red region was found to increase in the order mentioned above. The mechanical strength varied greatly, being greatest for sapphire and lowest for flourite. The authors believe that for a given investigation the choice of a suitable material will be based on a judicious balance of the four chief characteristics, namely: Mechanical strength, chemical resistance, transparency, and cost.

The windows were constructed as follows: The various materials were cut and ground in the shape of cylinders usually about five-eighths inch in diameter and five-sixteenths inch thick, with beveled edges. The two flat surfaces were polished while the others were only ground to a fairly smooth finish. The mounting of these windows was such as to permit screwing them into a standard spark-plug hole. Inspection under polarized light, and comparison with windows made of flat-disk shapes indicated that the use of the beveled joint with the soft aluminum gasket gave a perfect seal without setting up any of the strains which are present in the flat-disk type.

Cylinder Temperature

By MACY O. TEETOR
The Perfect Circle Co.

Before White Sulphur Springs, W. Va. meeting of the Society of Automotive Engineers.

One outstanding improvement in the development of internal combustion engines has been a constant increase in the power produced per cubic inch displacement or per pound unit weight. This improvement has resulted in the generation of additional heat that has been increasingly difficult to handle. The author states that although little can be done toward improving the cooling systems of automobiles already in service, serious thought should be given to the design of new engines. In discussing thermal distortion taking place in cylinder blocks, he states that whereas this factor was once negligible it has become very important due to the increased operating cylinder temperatures resulting from higher speeds and increased power output. If the cooling system does not perform its function of dissipating heat thermal distortion and inadequate lubrication result from localized hot spots. Furthermore, areas operating under excessive temperature encourage lime deposits in the cooling system which tend gradually to increase the localized operating temperature. A typical example of what happens to a cylinder barrel having a localized hot spot is given. The cylinder wall at the point of the hot spot expanded past the contour of its original shape and the piston ring could not conform to the distorted contour. Hot blow-by gas passed the rings at this point which increased the temperature. A heavy oil film collected on the distorted area because the piston rings could not contact the surface with sufficient pressure to reduce the thickness of the oil film. The high temperature burned the oil, which formed a layer of carbon on the cylinder wall. When the area of hard carbon was formed on the wall it could not be lubricated and the piston rings could not seal against such a surface. Therefore oil consumption cannot be controlled, blow-by is excessive and rapid wear is inevitable.

In discussing lubrication of the cylinder wall the author points out that lubrication should be sufficient to prevent a metal-to-metal contact between the rings and cylinder wall. A comparison is given of the operating temperatures of three different cylinders, run in the same engine with operating conditions held as nearly uniform as possible. One cylinder, A, was conventionally designed. Cylinder B was produced by redesigning A, improving the water circulation around and between the valves. Cylinder C was designed with the intention of eliminating cylinder distortion and hot spots as nearly as possible. The surface temperatures of cylinder A were excessive, well above that experience indicates to be safe. Oil consumption was considerably higher and blow-by slightly higher than with the other two cylinders. The temperatures of B and C were found to be in seemingly safe limits because scuffing or distortion was not apparent in either. The temperatumes of C appeared to be almost ideal, the author states, and the performance data was found to establish a basis for the formation of this conclusion.

The Effect of Detonation on Oil Consumption

By H. A. EVERETT and J. J. MIKITA
Pennsylvania State College

Before White Sulphur Springs, W. Va. meeting of the Society of Automotive Engineers.

Results of tests on the effect of detonation on oil consumption, made at the Pennsylvania State College in the course of a cooperative research program carried out jointly with the Pennsylvania Grade Crude Oil Association, are reported on by the authors. They found that the oil consumption increases materially when there is detonation. A series of tests was made to determine the effect on oil consumption of the following variables: Speed (with torque constant), torque (with speed constant), quantity of oil circulated, air-fuel ratio, temperature of the oil supplied, and temperature of cooling water. In determining the effect of detonation on consumption, two series of tests were made. In the first series detonation was accomplished by increasing the spark advance, and in the second by altering the fuel. In the tests the engine developed 51 horsepower at 3,250 r.p.m., and ran on a mixture having an air-fuel ratio of 14 to 1; the oil was circulated at the rate of 10.5 cubic feet per hour and was maintained at a temperature of 230 degrees. The outlet temperature of the cooling water was 160° F.

In one test advancing the spark from 28 degrees B.T.C. to 37 degrees B.T.C., where detonation occurred, increased the oil consumption approximately 25 per cent. Upon retarding the spark to 28 degrees B.T.C. detonation apparently ceased, there being no audible knock, but the rate of oil consumption did not return to that of the first test, but rather increased slightly. In another test, advancing the spark to 37 degrees B.T.C. again caused audible detonation, but no further increase in oil consumption. At the end of this test, the engine was shut down and allowed to stand for 24 hours and then again started. With the original spark advance, 28 degrees B.T.C., its rate of oil consumption returned to normal, about .79 pound per hour. The continuance of the high oil consumption in one test, after detonation had stopped, which was also observed in later, similar tests, remains to be explained. The effect is apparently nullified by shutting down the engine and allowing it to cool.

Heat Rejection From Diesel Engines

By MYRON S. HUCKLE and HAROLD V. NUTT

Before White Sulphur Springs, W. Va., meeting of the Society of Automotive Engineers

An investigation on heat rejection in diesel engines is described, the investigation being made to determine the effect of the following factors on the heat rejection to the cooling water: (1) Spark ignition vs. compression ignition; (2) exhaust manifold and lubricating oil cooling; (3) load; (4) injection timing; (5) engine speed, and (6) type of engine. The authors describe the test procedure and the apparatus used and the results of the tests are given in a set of curve sheets. It was found that in the diesel engine the rate of heat flow to the water jacket increases more rapidly with load than in a carburetor engine. This, of course, is in accordance with the fact that the brake thermal efficiency of the diesel engine does not fall off as rapidly as that of a carburetor engine with decrease of load. Generally speaking, the rate of heat rejection to the water jacket per cubic inch of displacement is less in a diesel engine than in a carburetor engine, although the speed of operation is a factor in this connection. It was found that the rate of heat rejection to the jacket water is much greater in a turbulent than in a quiescent engine. The authors state that the compression ignition engine has a tendency to knock almost directly in proportion to its rated speed unless counteracting factors are introduced. This tendency is caused by the well known sequence of ignition lag, accumulation of fuel, and spontaneous combustion of the accumulated charge. Though it is not detonation, as defined in a spark ignition engine, the noise indicates a rapid vibration of the burning gases which is characteristic of detonation. They also state that the average gas temperatures in the compression ignition engine are lower than in the spark ignition engine because of the higher expansion ratio and the large percentage of excess air.

A Visual Study of Air Flow, Fuel Spray, and Flame Formation in a Displacer Piston Compression-Ignition Engine

By A. M. ROCHROCK

Before White Sulphur Springs, W. Va. meeting of the Society of Automotive Engineers.

The author discusses recent tests, conducted at Langley Memorial Aeronautical Laboratory, which show that a considerable improvement in the performance of the compression-ignition engine can be obtained by the use of a displacer piston. To observe the effects of the displacer piston on the air flow and the effects of the air flow on the fuel spray and flame formation, motion pictures were taken, at the rate of 2,200 per second, of these phenomena in the combustion chamber. By using "Schlieren" photography, the air flow, fuel injection, and flame formation were recorded simultaneously. When the motion pictures are projected the phenomena can be observed at 1/150 of their actual speed. The results show that while the core of the fuel spray was not destroyed by the air movement, the direction of the spray was changed and the spray envelope was carried away by the moving air. The volume of the chamber reached by the combustion was considerably increased when the displacer piston was used. It was found that the air movement set up during the introduction of the air into the cylinder could be controlled so as to aid materially the air flow set up during the last part of the compression stroke.

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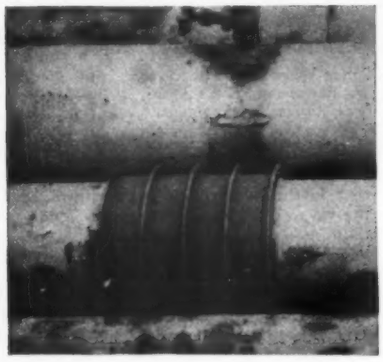

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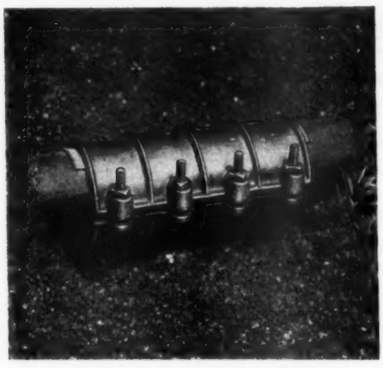

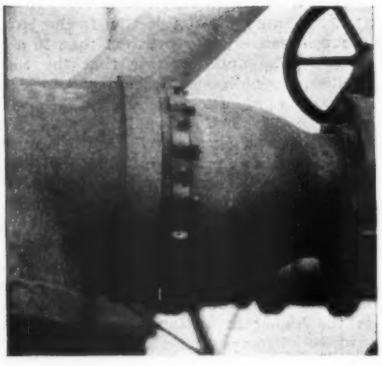

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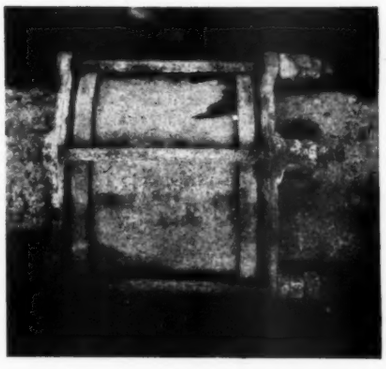

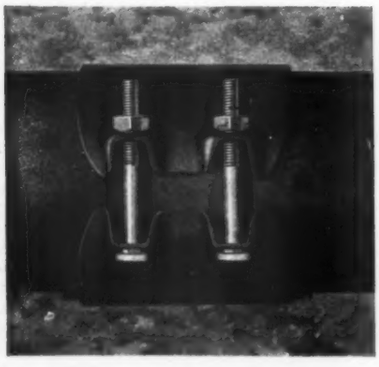

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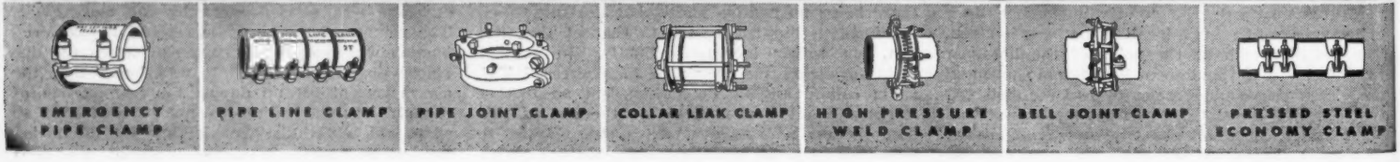

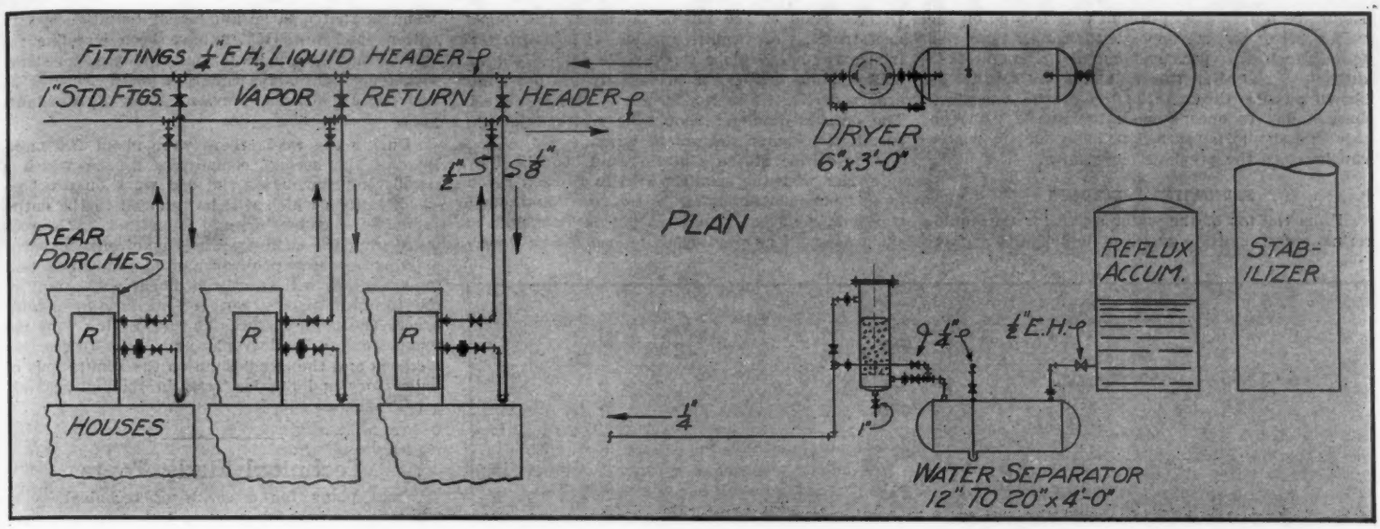

Fig. 1—Layout of lines showing light fractions taken from reflux accumulator through water separator and dryer to be expanded through coils located in refrigerator boxes

Iceless Refrigeration for the Natural Gasoline Plant Operator's Home

Natural gasoline plants are generally located at points distant from cities and sources of ice. Ice is needed for drinking water, laboratory work, and the plant operators' houses. Before the advent of stabilizers and in the heyday of the compression plant, some operators made their own refrigerating coils and brine tanks for the manufacture of ice, using the condensate caught in the high pressure accumulator as a refrigerant. This material was condensed under a pressure of about 250 pounds. The coil outlet was connected to the vacuum lines leading into the plant. Thus with a head pressure of 250 pounds and a vacuum of 5 to 25 inches, a fine refrigerative effect was produced.

The product caught in the high stage accumulators of the old compression plant was far from an ideal refrigerant, however, because it contained considerable percentages of the higher boiling point fractions which did not always evaporate and which had to be removed in a drip before being returned to the vacuum inlet line.

MODERN PLANT

During the past 10 or 15 years all new plants have been built with more efficient extraction equipment and with stabilizers to conserve all of the desirable gasoline elements and to eliminate all of the undesirable fractions such as ethane, propane, isobutane, and some normal butane. These fractions leave the stabilizer at the top as vapors, pass through a reflux condenser, thence into a reflux accumulator or separator, from which the remaining gas passes to the fuel or residue system.

The liquid reflux is pumped back over the top to "wash" the ascending vapors and drive down the desirable gasoline fractions. The amount of reflux condensed can be controlled in nearly all plants by varying the pressure or the amount of condensing water.

In a properly constructed and operated stabilizer, no difficulty is had in producing a reflux liquid which is free of iso and normal pentane and heavier fractions. By reason of its being free of these high boiling point fractions, the material serves as a very satisfactory refrigerant and it can be piped to any point about the plant where refrigeration may be needed.

The operators at a plant in southern Oklahoma connected the stabilizer reflux accumulator tank to a pipe line system leading to the rear porches of the operators' houses. Here they located their refrigerators into which they built coils. The accompanying drawings illustrate their procedure with certain improvements suggested by the writer.

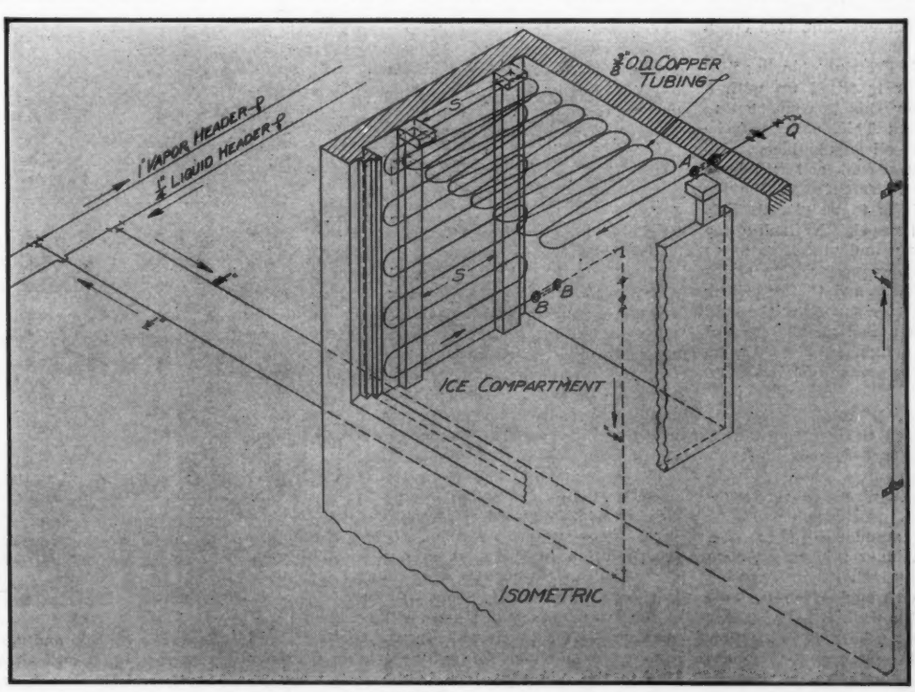

Fig. 2—Isometric drawing showing arrangement of copper cooling in individual box

Figure 1 shows the lower part of a stabilizer column, and a reflux accumulator or separator adjacent to it. At a point about a foot above the bottom of the accumulator, a half inch, extra heavy nipple and valve are attached to the accumulator for leading off the necessary amount of refrigerant. This permits most of the water to collect in the bottom of the accumulator from which it may be drained as frequently as necessary. The half-inch line leads to a horizontal drum or water separator made of pipe or casing 12 inches in diameter or larger by 4 feet long, the ends of which are closed with welding caps. This drum provides additional opportunity for water to settle out. This separator

should be provided with a bull plug located on the under-side at the end opposite the inlet. A quarter to half-inch pipe with end cut at an angle of 45 degrees is placed in this bull plug with outlet as shown passing through the top of the separator. Once a day to once a week the needle valve on this line should be opened to blow out any water caught since the previous blow down.

ELIMINATES FREEZE-UPS

From the top of the water separator the liquid reflux enters a dryer made of 6-inch pipe 3 feet long. This dryer is built with a by-pass and an extra heavy blind flange top as shown so that it may be dismantled for recharging. The drying element may be anhydrous calcium chloride or crushed unslaked lime. Any moisture which may remain in solution will be extracted by either of these chemicals. When charging a dryer with fresh chemical, one should remember to fill it only half full so as to permit expansion as water is absorbed.

If this dryer is omitted, freeze-ups will occur occasionally at the "expansion orifices" located at the refrigerator inlets.

The balance of Figure 1 illustrates the liquid distribution system and vapor return lines. The vapor return header may be connected to a separate recompressor, to the plant suction, to a low pressure fuel header (2 pounds or under) or to a vent stack located at a safe distance from any fire or home. All headers and branches connected to each house, whose refrigerators or ice boxes should be located on the rear porch and never in the house proper, are run underground to a depth of about 1 foot.

Figure 2 is an isometric drawing showing how each individual refrigerator is fitted up with a copper tubing coil and how this is connected to the liquid and vapor headers. This tubing may be purchased from garages or oil supply houses. No dimensions are given because each coil will have to be made up according to the size of the ice compartment into which it is to be placed. This coil should be made of three-eighths inch Odee copper tubing bent as shown and placed so as to drain to the vapor outlet. Dressed wooden strips "S" 13/16 x 1⅝-inches are fastened to the ceiling and side of the ice chamber for suporting the coil. Galvanized fencing staples nailed parallel to the direction of the coil with a light galvanized wire laced through them will support and hold the coil in place.

Figure 3 is a section "A—Q" of the coil taken at the point where it enters the refrigerator. A represents the three-eighths inch copper tubing. B is a three-eighths inch galvanized standard pipe hexagon lock nut. C is a galvanized washer larger than the nut with a hole just large enough to pass a three-eighths inch standard pipe nipple. D is a rubber gasket (old inner tube of an auto casing). E is a three-eighths inch galvanized pipe nipple long enough to pass through the refrigerator wall. F is the refrigerator wall. G is the belled or flanged end of the copper tubing. H is a union connector for joining the three-eighths inch copper tubing to one-quarter inch standard pipe fittings. J is the nut of an extra heavy quarter-inch galvanized lip union. K and K are the threaded and flanged ends of the union. L and L are copper asbestos ring or Cranite gaskets. Q is a quarter-inch extra heavy globe type needle valve. M is an orifice plate made, not necessarily so, but preferably of No. 18 or No. 20 gauge stainless steel. The outside diameter should be such as just to permit it to enter the nut of union.

The orifice at the center should be drilled by a jeweler with the smallest drill in his possession or just punched through with the finely and sharply ground point of a nail set punch. It should be made as small as possible. If it is made too large, peen the hole shut with a hammer and repunch it with a light blow on the punch. When it is small enough just to admit a ray of light, it is big enough. If it is made any larger, it will pass too much liquid refrigerant and produce too much refrigeration.

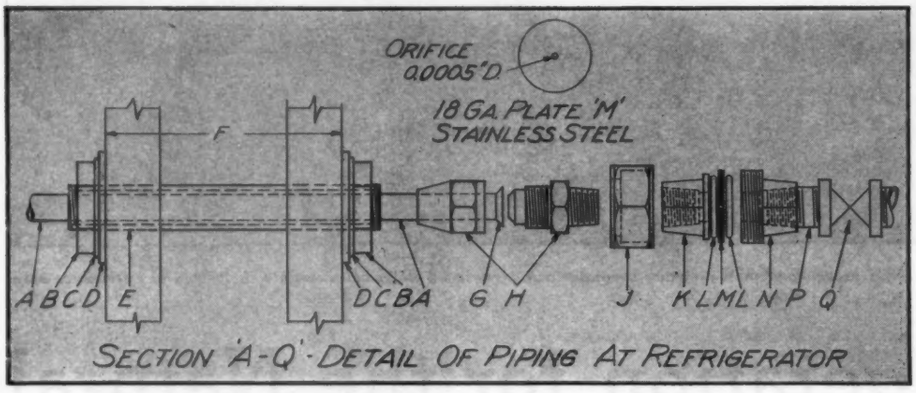

Fig. 3—Method of connecting cooling coil with distribution system

The coil "A" should extend far enough beyond the refrigerator to pass through the porch wall or screen so that all connections can be made outside the house and porch.

The vapor outlet "B—B" contains the same items B C D E and B shown on the inlet section "A—Q."

The system illustrated above has been in successful use for the past six years. It saves all bother about filling the box with ice and emptying the ice water pan. The only objection to it is the fact that the degree of cold is not automatically controlled. If the hole in the orifice plate "M" is made too large, it will produce too much cold. However, a little experimenting will soon determine how large this hole should be. A fine sewing needle held in a tool holder may be found useful in reaming the hole to size.

A branch leading to the laboratory can be used for making laboratory ice or for producing low temperatures in experimental work.

Next A.S.T.M. Meeting

The 1937 annual meeting of the American Society for Testing Materials will be held in New York City at the Waldorf Astoria, June 28-July 2, and the fourth exhibit of testing apparatus and related equipment will be sponsored in conjunction with this meeting. At the 1936 meeting of the society, which just came to a close at Atlantic City, 18 formal sessions were held and over 100 technical papers and reports were presented. As a result of actions taken at the various sessions, 31 new tentative specifications were accepted for publication as tentative, and 76 existing tentative specifications and tests were approved for reference to society letter ballot for formal adoption as standard. Proposed revisions in some 70 existing standards were approved at the meeting for incorporation in the standards, these to be confirmed by letter ballot of the society members. Revisions proposed in about 38 tentative specifications were accepted (these will be immediately incorporated) and changes in 10 existing standards were accepted for publication as tentative. Due to the fact that 1936 is the year when the society publishes its triennial Book of Standards, the standing committees were active in recommending that a large number of tentative specifications and tests which have been standing for one or more years be formally adopted as standard. The figure, 76, compares with 20 in 1935 and 60 in 1933, the previous Book of Standards year.

During the week, there were about 200 meetings of the society committees during which a number of committees finished work on proposed specifications which will be referred to the entire committee membership and submitted to the society during the summer. The committees reviewed existing research projects and a number of new investigations will shortly be under way. Many of the technical papers were of outstanding significance. The main features of the meeting were the Symposium on Radiography and X-ray Diffraction Methods and the Symposium on the Limitations of Laboratory and Service Tests in Evaluating Rubber Products.

Technical Study Tours

Final plans for a series of technical study tours, which will take 600 of the world's leading engineers to the scenes of this country's greatest industrial accomplishments, have been completed as a supplement to the World Power Conference meeting in Washington, September 7 to 12.

Nine separate technical study tours will conduct the visiting foreign engineers, scientists, and industrialists, in company with a group of Americans, on visits to some two dozen important centers, where will be seen this country's most recent developments in the production and application of electric power.

The technical tours will be held both before and after the conference sessions in Washington, where more than 700 distinguished foreigners, representatives of 48 nations, will meet with some 2,500 Americans for a week's session devoted to a consideration of "The National Power Economy."

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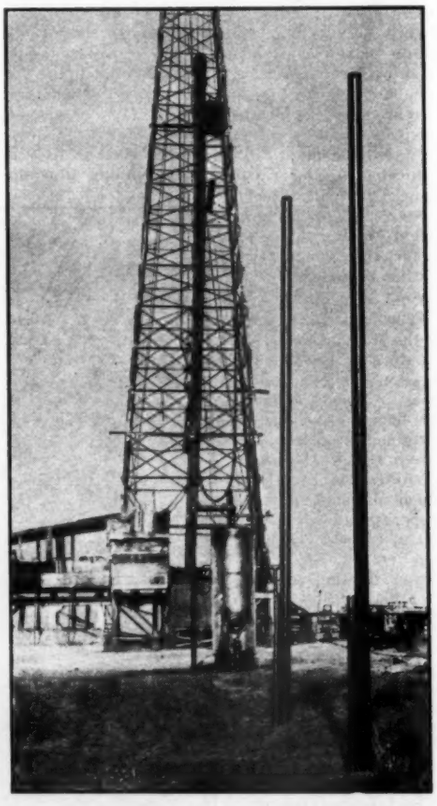

Separator hook-up and two gas vents as used on pressure completing method in Southeast New Mexico by Continental Oil Co. After well is completed the separator and one gas vent is left in place with other vent taken down

Utilization of Natural Gas Fuel for Central Stations

By E. F. E. SCHMIDT
Vice President Lone Star Gas Co.

A. S. M. E.—Delivered before the semiannual meeting of the society in Dallas, Texas

In the selection of fuel for central station operation, several factors should be taken into consideration. Of major importance is the availability of the several fuels that may be used. Then the cost and maintenance of the equipment necessary in its utilization should be analyzed. The uniformity of the heating value, the waste and the efficiency of the various fuels can be determined. It must be remembered that all fuels except natural gas must first be converted into gas before they can be utilized. The fact that natural gas is delivered to the power plants in its refined state is an important reason why it is used whenever it can be obtained at a price comparable to or even at a higher price than solid or crude fuels. In some instances where the pipe line cannot supply the entire demands of a plant, one of the other available fuels is used as a standby.

Largely through prospecting for crude oil in the Southwest during the past ten years there have been discovered and developed large reserves of natural gas. Increase in the art of drilling and improvements in the design and strength of materials have made possible the exploration of deeper horizons and the discovery of gas at depths greater than a mile. The rock pressure of these deep wells often exceeds two thousand pounds and in some fields reaches pressures as high as thirty-five hundred pounds.

These developments and the consequent large reserves of gas are important to the central stations because they assure a sufficient supply of industrial fuel for a long period of time.

While these many gas fields were being discovered, the manufacture of large diameter, high pressure steel pipe was revolutionized. In former years only lapwelded pipe was available and only in quantities of a few miles a day. The advent of electric welded and seamless pipe in larger diameters than possible with the old lapweld and in quantities to meet the increased speed with which lines could be laid brought about a vast program of transmission systems, radiating from the Southwest to the centers of population throughout the United States. Many millions of dollars were invested in these projects, and lines in excess of a thousand miles long were built. These lines operate at pressure ranges from a hundred to eight hundred pounds and carry many millions of cubic feet of gas daily to these distant markets.

These high pressure gas transmission systems brought nature's best fuel to the door of central stations located in the industrial centers of the Middle West and these plants can be assured that the Southwest has a dependable natural gas supply for many years to come from reserves already known, and with the almost positive assurance that many other large sources of supply will be found in prospecting for oil in the vast territory of the Southwest still unexplored. The Southwest exports natural gas to eighteen other states as far as Minnesota and Michigan and to Mexico. All along these long transmission gas lines, central stations almost uniformally are using natural gas for their principal supply, with fuel oil and coal for standby service.

Several large central stations have been built in the heart of the natural gas producing area of the Southwest and distribute the current through high tension lines to the immediate territory.

Natural gas ranks well above fuel oil, coal, and lignite as a power producing fuel in the Southwest. Statistics indicate approximately 78 per cent of the entire fuel requirements of central stations in this territory are supplied by natural gas. Coal and lignite rank second with nearly 16 per cent of the total, while fuel oil is third, supplying about 6 per cent.

While the cost of gas delivered to power plants may be higher than other fuels on a British thermal heat unit basis, other considerations of cost in utilization make it the most economical fuel. Natural gas fuel may be purchased usually on long term contracts and at a firm price. It is paid for after it is consumed and no storage facilities are required of the purchaser to assure an adequate supply. Interest, taxes, and insurance on stored fuel and storage equipment are eliminated.

Central stations using coal or lignite require large storage capacity, expensive and elaborate fuel handling, pulverizing and firing equipment, and spur track facilities for unloading. Where fuel oil is used, large capacity tank storage is required, with spur track for tankcar service and pumps and heaters for unloading and utilization. Interest, taxes, maintenance and amortization on these investments should be considered in arriving at the cost of fuel.

In the use of natural gas, the fuel is delivered in high pressure pipe lines, measured continuously as used, reduced in pressure automatically by simple regulators, and distributed to the power plant boiler at controlled pressures through inexpensive gas burners. Automatic firing control can be had with the use of gas to a degree not attainable with any other fuel, thereby insuring the most economic plant operation. This may be accomplished by controlling the excess air, thereby firing at the maximum carbon dioxide limit in the stack gases, insuring high economical boiler rating.

Boiler tube replacements and furnace maintenance is greatly reduced in the use of natural gas compared to other fuels. This is largely due to the even heat and lower fire box temperatures that prevail with natural gas.

The central station load is very desirable from the gas company standpoint because of its high load factor. The central station is not subjected to as widely fluctuating demands as most other industrial plants. This load represents approximately twenty-eight per cent of the total industrial sales, eliminating field sales, such as carbon black plants and drilling operations which sales are usually at the source of the gas supply and do not require a large part of the gas transmission facilities.

Most central stations using natural gas as their principal fuel have their boilers equipped with combination gas and fuel oil burners. In case of peak demand on a transmission system brought about by cold weather and the demand for house heating gas, the gas company may require the central station to discontinue the use of gas for a period. Usually the switch to fuel oil takes only a few minutes which makes this gas almost immediately available for domestic use. These periods requiring alternate fuel have been very in-

Typical burner installation in large power plant

frequent in the past few years, particularly in the Southwest, but some provision must be made by the central station to provide against such emergencies, and also against accidents to machinery and pipe lines of the gas transmission system.

Where natural gas is used in central station operation, it is possible for the plant engineer to know at all times the rate, quantity, and quality of the fuel. For large consumers, such as central stations, the gas is usually cleaned after leaving the main high pressure line by passing it through a large cylindrical vertical tank where it comes in intimate contact with a suitable oil which washes all solid impurities from the gas. The oil is separated from the gas in the upper part of the same tank by a centrifugal and wiping action which a series of carefully designed blades give to the stream of gas as it flows up the tank to the outlet. This cleaning process can be done most economically at the highest pressure available and is, therefore, ahead of any pressure regulating apparatus.

When gas from a transmission system is brought to the central station at pressures above fifty pounds gauge, one or more regulators are used to reduce this pressure to approximately 25 to 30 pounds before entering the measuring station.

Orifice meters are usually used for measuring the volume of gas delivered. These are arranged in manifold of two or more, depending on the variation in load of the central station. By the use of automatic valves both the maximum and minimum range of accurate operation of the manifolded meters may be accomplished. This mechanism puts a second meter into operation when the differential pressure across the orifice plate of the first meter exceeds a predetermined amount and automatically puts it out of service when the two meters reach a minimum differential.

DETERMINING SPECIFIC GRAVITY

In connection with the measurement by orifice meter, it is necessary to know the specific gravity of the gas. This can be determined by the usual balance method where the gravity is sufficiently constant or may be recorded continuously by one of several types of recording specific gravity apparatus.

After the gas passes through the meter runs to the outlet manifold header, it is conducted through a single line to another regulator where the pressure is reduced to the utilization or burning pressure of the boiler burners. The burner pressure for most installations is fifteen pounds where combination fuel oil and gas burners are used. This type of burner is by far the most prevalent.

The firing of central station boilers with natural gas fuel is very simple. The operator controls the amount of fuel to all burners by means of a master valve on the gas header. With a constant gas pressure on the header, he can meet a sudden steam demand by the turn of a valve. This sudden demand is first evidenced by a drop in steam pressure. As the flow of gas is increased to the boilers, forced or induced draft fans are speeded up and the load is balanced off when the steam gauge shows the proper boiler pressure, and the carbon dioxide indicator shows the predetermined per cent existing in the stack gas. It is possible to make all these operations automatic where natural gas is used for fuel.

Whether new stations or superimposing is carried out, natural gas fuel will occupy a favorable position in either development. The low cost of gas burning equipment and controls as compared to the elaborate fuel storage facilities, fuel handling and firing equipment, necessary to utilize solid fuels will be a factor in the choice of fuels. Natural gas is already available to the centers of population and industrial development and furnishes the central stations nature's best fuel.

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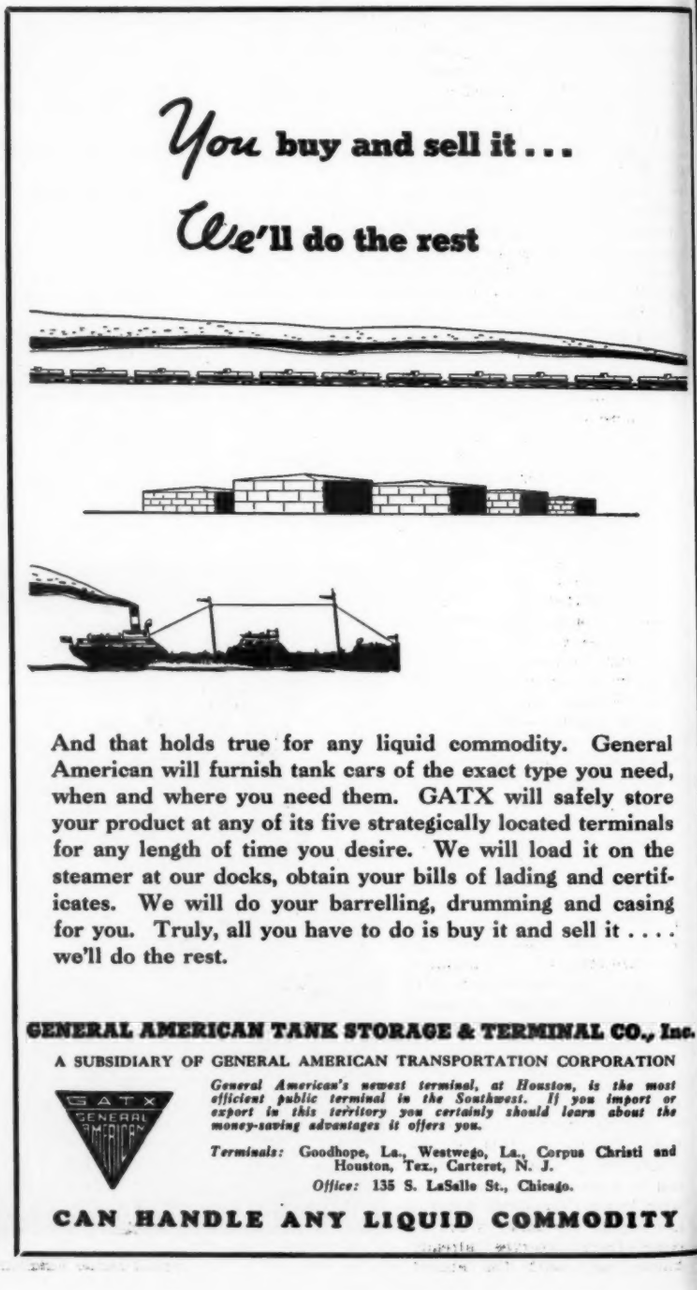
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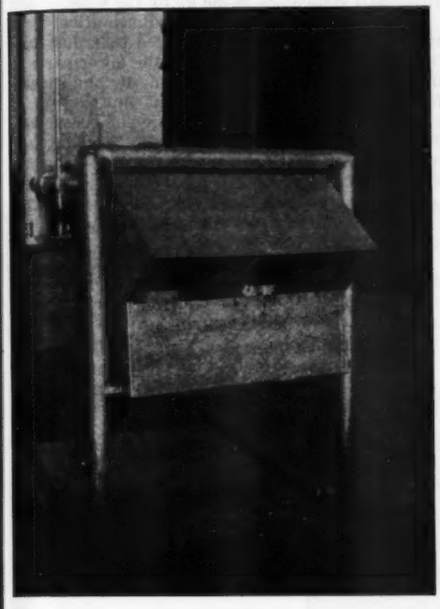
OPERATING IDEAS

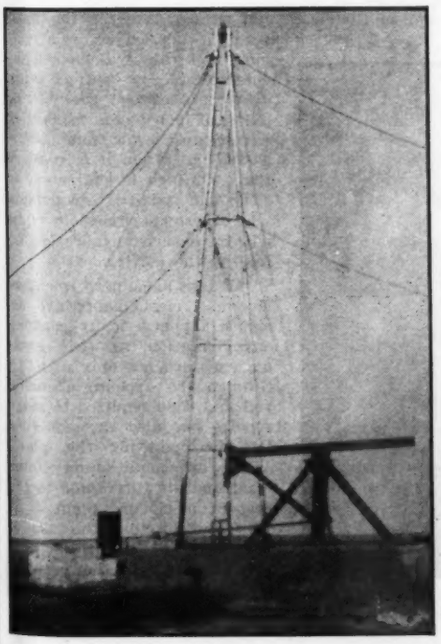
Rag Container at Tank Battery

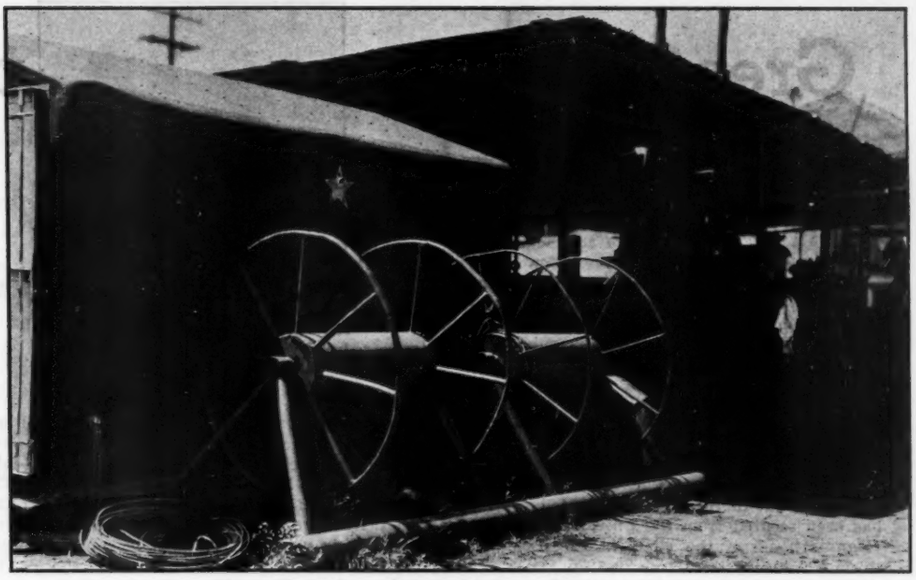
At a tank battery rags are necessary to keep the tanks and connections neat in appearance and to get accurate gauges with tapes or gauging poles. The photograph shows a container, at a tank battery, for rags. In one compartment clean rags are kept, while in the other compartment, used rags are collected until they are cleaned or disposed of.



Derrick Replaced by A-Frame

In fields where well servicing units are in use, it has been noticed that there is an increasing use of A-frames, or pulling masts, on wells which seldom require pulling. These are usually installed to replace rotted wooden derricks or to salvage steel derricks.





Electric Cable Reels for Diesel Electric Rig

A drilling contractor in the Oklahoma City field who operates a diesel electric drilling rig built two reels and mounted them on a skid. They are for reeling up electric cables when the rig is being moved from one location to another. Besides providing a convenient method of transporting the cables, the chance of tangling or breaking them is eliminated.

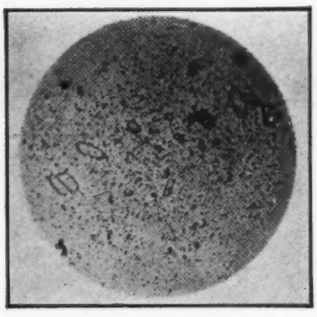
Floodlights at Pipe Yard

To provide good light in the yard for loading and unloading, and also to provide sufficient illumination for the night watchman so as to make it possible for him to quickly detect pipe stealing, these two floodlights have been mounted on steel towers above this warehouse located in the north end of the Mansion field, Oklahoma City. In this installation the two floodlights in use are 500 watt, enclosed type projectors. These floods are about 30 feet from the ground and 60 feet apart. The approximate area covered by these floodlights is 100 x 200 feet. Although the level of illumination is low, it is sufficiently strong for the purpose for which the floodlights were installed in this instance.

Boiler Blowoff In Cellar

Of the many hazards confronting drilling companies in the Oklahoma City extension one of the most important is solving the problem how boilers may be safely blown off. In normal operations this may be done with but little precaution, whereas in this instance if the steam is blown into the air it would settle on nearby property and cause a smudge due to the oil carried in the steam. The accompanying photograph shows how this hazard may be eliminated by installing a blowoff in the well cellar and connecting it to the boiler blowoff line. The blowoff vessel was constructed from 12-inch casing, closed at the upper end and extending to a depth of about 6 feet into the cellar.

Myriads of Dust Particles in Air Create Great Menace to Machinery



Microphotograph of dust particles collected on glass plate, taken during normal conditions

By L. G. E. BIGNELL

The people of this country have become "dust conscious" in the past few years because of the "black storms" that have occurred from time to time. Great clouds of dust have been blown from the so-called "dust bowl" of eastern Colorado, western Kansas, the Panhandle of Texas and western Oklahoma across the Mississippi Valley and eastern states leaving in their wake large quantities of fine silt and sand. During such storms the air has been so filled with dust that the sun has been hidden from view and living conditions generally have been very unpleasant.

To give some idea of the volume of dust in the air during one of these storms the following data has been secured from the University of Wichita (Kansas), one of the cities in the path of the storm which occurred March 20, 1935. At 11 o'clock the sky was completely filled with dust particles and the visibility was not more than 300 feet. The wind velocity was low, but an unmistakable drift from the west was evident. Motorists from Colorado reported the storm as far west as the Kansas state border.

At this time two students of the University of Wichita decided to measure the amount of dust in the air. Each took a beaker such as commonly used in chemical experiments and placed them in protected places on a balcony of the second floor of the Science Building. After two hours' time the beakers were removed and the amount of dust in each weighed. The first beaker contained 0.0098 gram of material. The second beaker contained 0.0092 gram. It was calculated that this amount would equal 0.6 of a pound or 9.6 ounces in a cubic yard and a cubic mile would contain 327,000,000 pounds. Wichita covers approximately 30 square miles and it was estimated about 5,000,000 tons of dust was in the air above the city when this test was made.

Samples of the dust were sent to mineralogists for examination to determine its composition. It was reported that it was composed essentially of two minerals, orthoclase feldspar and quartz. The feldspar made up about 75 per cent of the sample and less than 2 per cent consisted of other minerals than the two mentioned. Among those were biotite, a species of mica, volcanic ash and pyroxene, a meta silicate.

While these severe dust storms cause shutdowns of machinery in the oil fields and necessitate clean-ups after they have passed to remove the accumulated dust, they are not of great importance. But it is known that there are dust particles in the air at all times which will enter into the cylinders of engines and get into bearings of machinery and cause unnecessary wear. This dust is of much the same composition as the material caught during the heavy dust storms, and this is all hard rock and does considerable damage to moving parts.

The orthoclase feldspar has a hardness of 6 and quartz a hardness of 7 indicating the cutting qualities of these minute particles. These hard particles have resisted wear as they have moved from their point of origin while softer materials have been broken down into silty particles and being softer will not be so abrasive.

These harder particles will vary in size depending upon the velocity of the air currents transporting them. Experimental work done by the late J. A. Udden, University of Texas, showed that in a wind of about 8 miles per hour velocity the maximum size of material readily transported in suspension is about 0.1 mm. Other experiments have shown that particles of dust slightly below .1 mm when thrown into the air could scarcely be noticed to settle and material 0.04 mm size was apparently completely borne up by the wind.

Typical scene in West Kansas dust bowl showing sand ridge following old fence line

In Twenhofel's work on Sedimentation it is stated that J. Aitkin demonstrated that dust particles are present at all times in the lower parts of the atmosphere. Observations made by him showed for 1890 at 16 separate stations an average of 1562.9 particles of dust for each cubic centimeter, with the lowest, 16, at Kingairlock, Scotland, and the highest, 26,000 at Mentone, France. In 1891 with 297 places of observation, the average number of particles per cubic centimeter was 1475.8 with the highest, 40,000 at Milan, Italy, and the lowest, 43, again at Kingairlock.

To secure some idea of the quantity of dust that may be taken into an engine burning gasoline the following is quoted from a bulletin issued by Socony-Vacuum Oil Co.: "With the burning of 1 gallon of gasoline there is taken into a vehicle engine the equivalent of all the air in a room 10x12x10 feet, or approximately 1,200 cubic feet." Assuming that an average of 12 miles per gallon is consumed over a 300-mile run, at the end of the period 30,000 cubic feet of air will have passed through the engine, which at the end of 5,000 miles approximates a total of 500,000 cubic feet of air.

Taking the average of 1,525 particles per cubic centimeter as reported it may be calculated that in 1 cubic inch there are about 24,990 particles. In 1 cubic foot there will be 43,192,720 particles and if it requires 1,200 cubic feet of air for mixing with 1 gallon of gasoline it follows that the total of 51,831,264,000 particles of dust will be passed through the cylinders if the air is not properly filtered.

As Udden and others have pointed out these particles are of appreciable size ranging from 0.1 mm to 0.001 mm and as they are for the most part composed of relatively hard rock they will have a decided abrasive effect when caught between the moving parts of modern machinery with clearances of from .0005 to .003 inch. When it is realized that .002 inch is equivalent to .0508 mm it is easy to explain why these particles of dust will have such an abrasive effect on the moving parts.

Modern machinery is expensive and most plants are designed for practically continuous operation so that shutdowns are not only costly through the expense of material and time required to make repairs but also through time lost in operating the plant. While air conditioning equipment and air filters add to the cost of a modern plant it is very evident that the use of this type of apparatus will quickly pay for the cost by eliminating unnecessary wear and costly shutdowns.

Scene in the dust bowl area of Kansas showing soil drifted over farm machinery

2 *REASONS* WHY TONCAN IRON PIPE LASTS LONGER

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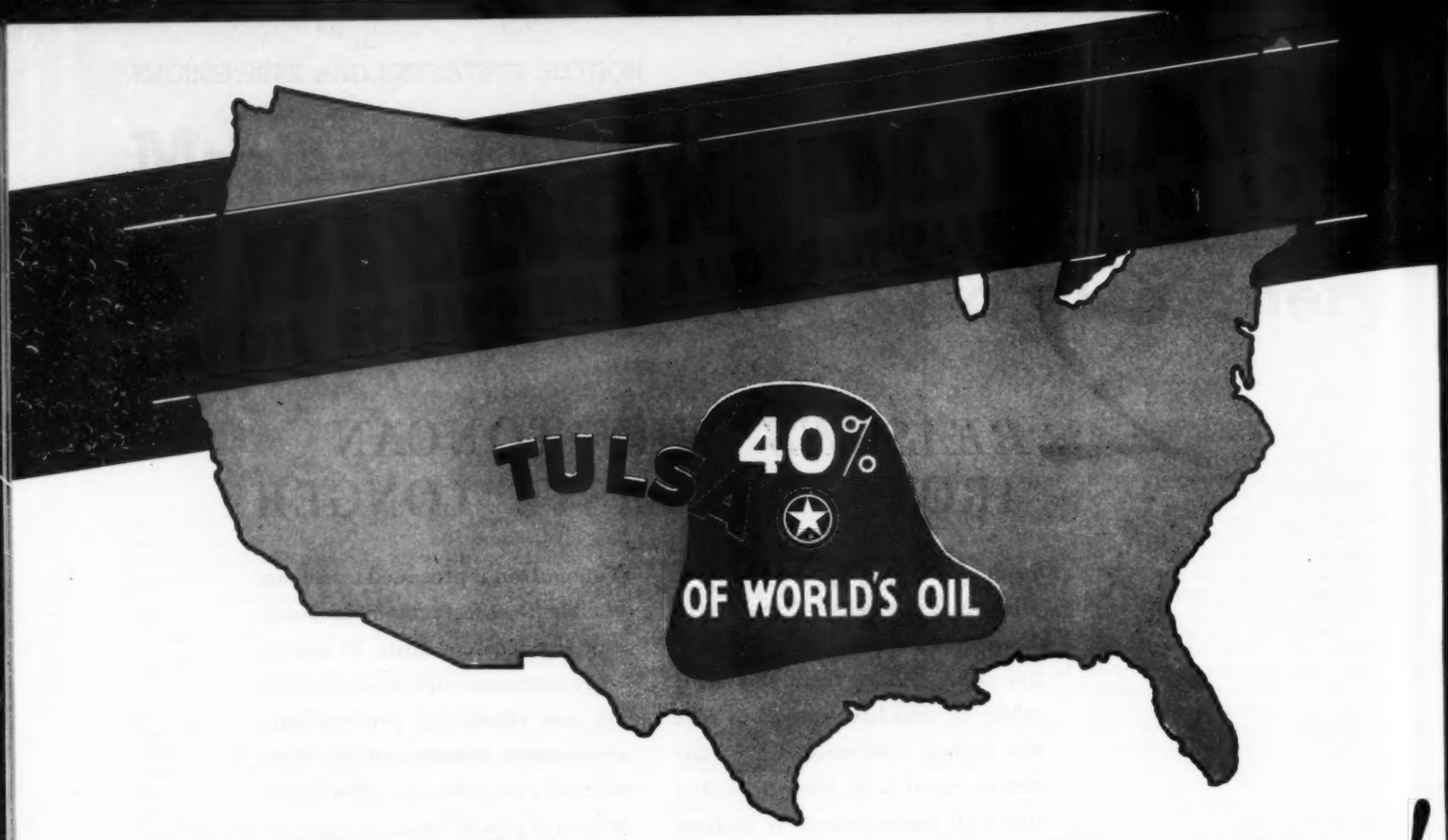

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Only the highlights can be mentioned here. The Tulsa Chamber of Commerce will gladly send you copy of The Oil and Gas Journal's "Survey of Purchases for the Petroleum Industry for 1936", and will welcome the opportunity to answer your questions and prepare special reports covering your opportunity in Tulsa.

TULSA

Oil Capital of the World

Gun Perforator Utilized in Samfordyce Field for Completion of Oil Wells

By T. P. SANDERS

In the Samfordyce field, in Starr and Hidalgo Counties, Texas, a method of well completion has been employed by Phillips Petroleum Co. and other operators which has some decided advantages for use in that field and other fields where similar geologic and proration conditions are found. Unlike the usual method of setting the flow string before drilling the pay formation, and leaving an open hole, or setting a perforated liner through the pay zone, by this method the pay is drilled with a core drill and reamed before running the flow string. The flow string is then cemented through the pay zone. Cement remaining inside of the casing is drilled out to within 2 or 3 feet of the bottom of the casing, and using the information obtained from the cores, the casing is gun perforated at the depth thought to be most suitable. The main reason for using this method was to make it unnecessary to produce gas from the gas cap over the oil zone, and thus prolong the flowing life of the field.

PRORATION IS CHIEF FACTOR

The proration method used in the Samfordyce field, which is the chief factor in making this method practicable, does not call for taking potentials, or making any other well tests. Each well in the field is allowed the same percentage of the field allowable regardless of potential, bottom-hole pressure, or other considerations. The allowable is usually about 40 bbls. per day per well. Since the wells are capable of producing many times this amount, the factors affecting maximum flow may be more or less disregarded, and the conditions regulating production efficiency can be improved. The cementing off of a large part of the pay formation, which is done in the use of this method, will, of course, decrease the flowing capacity of a well. However, many wells have been completed in this manner and have been produced for several months, and so far there have been no indications that the perforated casing and cement in the pay formation will ever restrict the production below the desired amount. In case it does, another gun perforating operation will be necessary.

Besides the advantage offered in casing off gas above the oil in the producing formation, it is believed that this method will also facilitate water shut-off operations. The usual method of shutting off bottom water by plugging back with cement and other materials in the bottom of an open hole is usually a time-consuming task, and good results can seldom be assured. With casing cemented through the producing formation it would apparently be a rather simple operation to plug off the perforations in the casing with a cement plug and perforate the casing again higher in the pay zone. In well operations such as cleaning out or drilling deeper it is probable that this method will be found to be of advantage over many well completion methods because of the absence of a liner.

The geologic conditions found in the Samfordyce field make the application of this completion method especially attractive in that area. The known structure is a monocline dipping gently (about 2 feet per 100 feet) to the south throughout the center of the field, and to the southwest and the east at the west and east ends of the field, respectively. The producing formation of the field is known as the Samfordyce sand, which lies at a depth of about 2,800 feet, or 2,600 feet below sea level. It is divided into two parts by a layer of shale from 2 to 5 feet thick. The upper sand is 9 to 10 feet thick, and except for the top foot, which is more consolidated, the sand is practically uniform. It is loosely consolidated, and has a porosity of about 30 per cent, which is unusually high. The lower sand is thinner, and was not penetrated by any of the wells here concerned, since it is probably occupied by water. In the upper sand the part lying above —2,585 feet is occupied by gas. Below this level the sand is saturated with oil down to about —2,630 feet, which is the water level. This comparatively narrow strip of oil between the gas above and the water below makes up the Samfordyce field. When wells are drilled near the northern edge of this strip, gas is found in the top part of the sand body. If the above described method is used, the casing is then perforated near the base of the sand, leaving the gas cased off. The fact that the vertical permeability is slightly higher than the horizontal permeability tends to keep the gas from being drawn down to the perforations when the well is flowing. Wells drilled toward the southern edge of the productive area often find water in the base of the sand, and for this reason the perforations are made near the top of the sand body. The porous condition of the sand, and the presence of water down dip seem to indicate that there will be a strong water drive as the oil is withdrawn. Therefore, it is probable that changes will be necessary in the depth of the perforations as the water level rises and the oil-gas contact moves up or down. If no gas is withdrawn from the gas cap, the oil-gas contact should move down as the formation pressure in the field is lowered. It is probable that enough gas will be withdrawn to cause the oil-gas contact to move up, however.

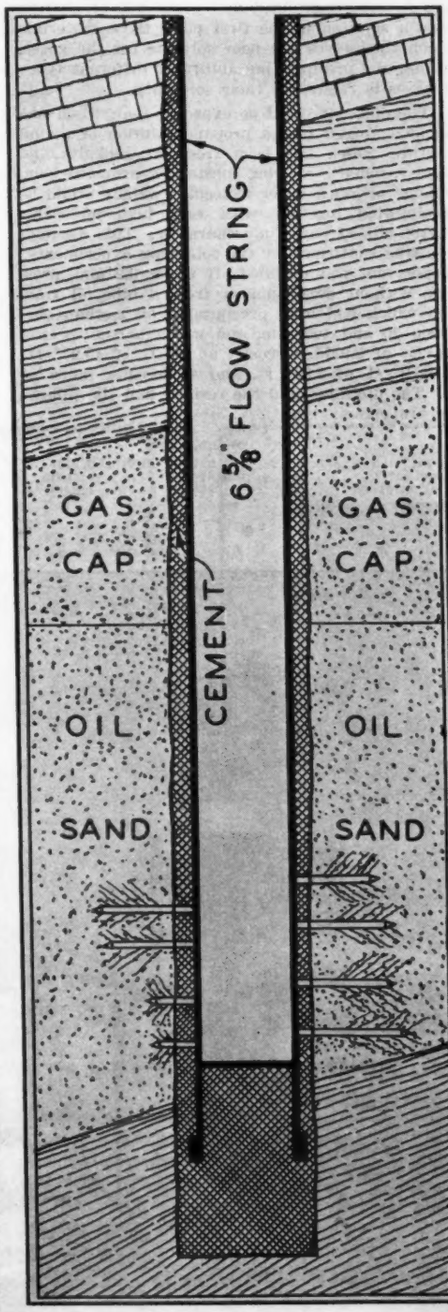


Diagram showing completion method used in Samfordyce field where gas cap is present

DESCRIPTION OF METHOD

In the use of this method the pay sand was drilled with regular rotary tools using mud. The casing was cemented through the sand, using quick-setting cement with no special additions, such as fibrous material, to keep the cement slurry from penetrating the face of the sand. The penetration of the slurry was evidently much less than the penetration of the bullets from the gun perforator.

In the Cooper pool in New Mexico some well conditioning work has recently been completed which may serve to show the practical use of well completion methods of this kind. The usual casing program in the Cooper pool called for setting the flow string through the gas zone above the oil-saturated zone, but unlike the method used in the Samfordyce field, the casing did not extend through the oil zone, and the bottom of the casing was left open. Comparatively early in the life of the field large quantities of water appeared in most of the wells. In many wells large-sized Reda pumps were installed to lift the water. The water rapidly increased, making profitable operation uncertain. It was then thought possible that most of the oil had moved up into the zone formerly occupied by gas, since gas had been withdrawn from the gas cap. The casing was gun perforated near the bottom in three wells, after setting packers in the bottom of the pipe, with the result that the water percentage decreased. Formerly the average water production of these three wells was estimated at 99 per cent. Now it is estimated at 90 per cent. The average daily fluid production for these wells is about 3,000 bbls. The producing horizon is a porous zone in the Permian Big Lime formation, situated on the west edge of the Central Basin Platform of the West Texas Permian Basin.

The completion method used in the Samfordyce field was also used in the drilling of several deep exploratory wells in the Tepetate field in Arcadia Parish, Louisiana (The Oil and Gas Journal, December 12, 1935). It is interesting to note that the Tepetate wells were completed at a depth of 8,300 feet. This method, or similar methods, have also been used in a few other Gulf Coast fields, such as the Plymouth field in San Patricio County, and in several California fields.

Fractionation of Petroleum Residues With Natural Gas Under Pressure

By S. von PILAT*

In 1919 K. Kling tried to develop the precipitation of hard asphalt by means of "normal benzine" according to Holde test method. He started from the observation that the precipitation of asphaltic materials from petroleum products is the more complete, the lighter the benzine used for the precipitation[1], and noticed that a light gasoline which is gaseous at ordinary temperature and pressure will precipitate five times as much asphalt as the same amount of "normal benzine." The experiments of Kling formed the basis for a Polish patent of the Research Institute "Metan" dated 1920[2]. Fifteen years ago but little light gasoline was recovered from natural gas, which represents the main source of light hydrocarbons, and consequently these patents were hardly noticed for a long time.

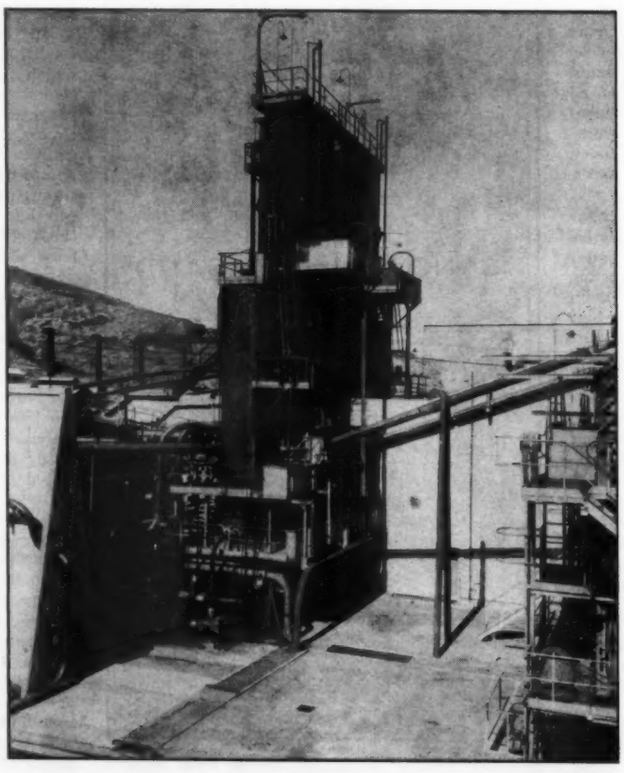
In 1932 M. Godlewicz and the writer repeated the experiments of Kling, using a propane-butane fraction obtained by the stabilization of natural gasoline and composed of 61.2 per cent propane, 34.63 per cent isobutane, and 4.17 per cent normal butane. We observed that, if a petroleum residue is treated with this fraction, the solution supernatant on the precipitated asphalts still remained dark colored, proving that not all coloring asphaltic or resinous substances had been removed. To increase the precipitating effect of the propane-butane mixture, a "dry" natural gas containing about 97 per cent methane was introduced as a still lighter hydrocarbon into the treated solution from a pressure cylinder. At about 30 atm. a dark semi-liquid product settled out and the supernatant solution became light colored. When more natural gas was forced in, the precipitation of a heavy oil fraction as a second liquid phase was observed. When the pressure, and thus the methane concentration, was increased stepwise, lighter oils were precipitated consecutively so that, when a pressure of about 130 atm. was reached, only a few per cent of a very light citron-yellow oil remained in the methane-saturated propane solution. A thorough fractionation of the petroleum residue at room temperature was thus accomplished[3].

This fractionation apparently is due to the fact that the solubility of high-molecular weight hydrocarbons in the propane-butane fraction is reduced by methane, the concentration of which rises with the pressure (the natural gas[4] can be considered as methane). According to F. Fischer and Zerbe[5] and P. K. Frolich[6] the solubility of methane in different hydrocarbons decreases with increasing molecular weight of the latter and depends also upon the chemical character of the solvents which Frolich illustrates by the carbon-hydrogen ratio.

Generalizing from Frolich's results, paraffins, naphthenes with many side-chains, naphthenes and aromatics, all of the same molecular weight, exhibit decreasing solubility in methane in the order named. Methane will probably dissolve high molecular weight naphthenes containing numerous side-chains[7] just as easily as aromatics of considerably lower molecular weight. And it may be assumed that gases will precipitate from a solution in the first place those materials which themselves are poor solvents for the gases, or that the precipitating ability of different types of gases is related to their solubility.

Therefore, it could be expected that, when methane is forced into a propane solution of an oil mixture which has been freed of asphalts and highly aromatic coloring substances, aromatic components of much lower molecular weight would be precipitated together with very high molecular weight oils of paraffinic character. This assumption was confirmed by the following experiments: 60 per cent was distilled off under 0.2 mm. pressure without dephlegmator from a lube oil fraction which had been precipitated by methane between 70 and 100 atm. and which had a specific gravity of 0.9275, viscosity at 50° C. of 15.27° E., at 98.9° C. of 2.34° E., and a viscosity index of 44. The distillate and the residue had the following properties:

	Distillate 66%	Residue 33%
Sp. gr.	0.9315	0.9190
V. at 50° C.	9.02°E.	40.70°E.
V. at 98.9° C.	1.85°E.	4.28°E.
V.I.	19	71



New pressure stills in Richmond refinery of Standard Oil Co. of California

The specific gravity of the residue is smaller than that of the much less viscous distillate.

The following result was obtained by distilling off at 33 per cent from another fraction which had been precipitated as above and had a specific gravity of 0.928, a viscosity at 50° C. of 18.98° E., a viscosity at 98.9° C. of 2.59° E., a viscosity index of 46, and a viscosity-specific gravity constant of 0.860:

	Distillate 33%	Residue 66%
Sp. gr.	0.927	0.931
V. at 50° C.	5.69°E.	40.15°E.
V. at 98.9° C.	1.61°E.	4.32°E.
V.I.	44	72
V.-sp. gr. constant	0.876	0.8547
Mo. W.	329	510

In view of the approximately identical specific gravity of the distillate and residue, the differences in molecular weight, viscosity index, etc., are surprisingly large.

The solubility of the gases used for the precipitation is an important factor, as shown by experiments in which carbon dioxide, hydrogen, or nitrogen was charged instead of natural gas. It was found that hydrogen, for example, requires a pressure of 120 atm. to produce the same results as natural gas at about 30 atm. Nitrogen gave an average value in complete agreement with the data of Frolich for the solubility of this gas in petroleum products. The following experiment illustrates clearly the precipitating effect of different gases[8] on a solution of de-asphaltized Venezuela residue in a propane-butane fraction. In order to determine sharply the beginning of the precipitation, a ratio of one part de-asphaltized residue to 6.1 parts solvent was chosen. The pressure data refer to the first sign of turbidity.

CO_2	15 atm.
Natural gas (97.9% methane)	18 atm.
Nitrogen	28 atm.
Hydrogen	no turbidity up to 86 atm.

Whether the use of different gases causes differences in the fractionation is now being investigated.

Results of this type of fractionation of course depend upon the solvent in which the precipitation is effected. Asphalts were precipitated from a petroleum residue by dissolving the latter in a propane-butane fraction. The solvent was distilled off from the asphalt-free solution and the oil mixture was then dissolved in five volumes of petroleum ether of specific gravity 0.627 (endpoint 33° C.). When methane was forced into this solution, the precipitation of a second phase began at 130 atm., while in propane solution the same effect was accomplished at 30 atm., i.e., at a pressure 100 atm. lower.

For practical reasons the lighter solvent will be perfected. Propane is a better solvent for natural gas than are the pentanes, which represent the principal component of petroleum ether. Ethyl ether acts similarly to petroleum ether.

In conformity with the investigations of Sage, Lacey and Schaafsma[9], it was observed that at about 100 atm. and 20° C. the mole fraction of methane in the propane-butane mixture used for these experiments was 0.564. For the separa-

*Translation by A.C.S. from Oel und Kohle, v. 11, 655-8 (9/22/35).

Note: The Petroleum Division of the American Chemical Society has undertaken to translate a limited number of foreign technical articles upon topics of interest to the American petroleum industry. The above paper represents one of these articles. The Petroleum Division assumes no responsibility for the facts and opinions presented in this paper nor does it necessarily endorse statements made therein.

tion it was highly interesting to determine whether (and what) reaction heats are involved in this process. In cooperation with E. Neymann[10] it was shown that the reaction heat is practically equal to the heat of compression of the natural gas. This seems plausible, because the solution takes place at temperatures which are far above the critical, and the heat effect of the mixing of closely related hydrocarbons is very small.

Calorimetric measurements confirmed the observation made previously in the course of these investigations, that a pressure cylinder partly filled with propane is able to hold more methane at a given pressure than an empty cylinder. When a calorimetric bomb of 267.6 cu. cm. capacity was filled at 16° C. with methane, a weight increase of 9 g. was found. When the bomb contained 33.4 g. of propane, and methane was forced in at 50.5 atm., the increase in weight was 10.15 g.; with 100.8 g. of propane and the same pressure, it was 10.5 g. With pentane and heavier hydrocarbons, however, the amount of methane forced in dropped with increasing charge of the bomb.

This new type of fractionation is explained by the following compilations which show the yields for stepwise increase of the pressure, and the properties of the products. At 8 atm., which is the pressure of the propane fraction used, asphalts are precipitated; methane is then charged, and at 40 atm. coloring substances of highly aromatic character (mol. w. only about 450 to 500 in spite of high viscosity at room temperature) are precipitated. Upon further pressure increase, oily fractions appear as a second, heavier liquid phase. It is evident that at the pressures existing in the apparatus the oil fractions which separate out must contain propane and small amounts of methane. Table A shows the proportional amounts. We remark that very light heating easily removes the last traces of the solvent.

Experiments were also made to further increase the selective action of the methane solutions on mineral oils[11] by adding separating agents such as cresol. When cresol is added to the solution of heavy hydrocarbons in propane, and

TABLE 1—FRACTIONATION OF A RUMANIAN PETROLEUM RESIDUE

Pressure	Amount gal.	Yield %	Sp. gr.	V. Sec. Saybolt 37.8°C.	V. Sec. Saybolt 50°C.	V. Sec. Saybolt 98.9°C.	V.I.	V.-Sp. gr. constant	Pour pt., °C.	B.P. °C.
8	805	27.35	.....	.....	.....	.....	..	.....	...	...
30	137	4.65	0.997	.....	....	2,202	..	0 906	...	...
40	263	8.85	0.9845	.....	....	1.122	..	0.897	...	...
50	145	4.95	0 960	26,658	8,532	422	..	0.869 0 878	+8	...
60	278	9.45	0.9495	10,366	3,802	260	58	0 865 0 870	+5.5	275
70	273	9 27	0.939	6,354	2,468	202	61	0 865 0.861	+4	277
80	206	7.00	0.9295	3,703	1,523	151 1	64	0.849 0 853	+9	267
90	188	6.4	0.9225	2,363	1,027	118.5	64	0.845 0.847	+3	263
100	128	4.35	0.9165	1.602	725	95.2	60	0.842 0 844	0	...
130	154	5.25	0.909	1,056	502	78 3	62	0.834 0.838	—6	249
Res.	122	4.15	0.908	615	315.8	61.4	57	0.844 0.842	—13	...

Rumanian residue 2945 gal. dilution, 4.65, weight per cent, per 1 part of asphalt-free residue.

Sp. gr. 0.9785, C_2H_6	.....
V. 17° E./100° C., C_3H_8	62 2 %
B.P. 269° C., C_4H_{10} iso	34 63%
Pour pt. + 12° C., C_4H_{10}	4.17%
	100.00%

TABLE 2—FRACTIONATION OF A VENEZUELAN RESIDUE

Pressure	Amount gal.	Yield %	Sp. gr.	V. Sec. Saybolt 37.8°C.	V. Sec. Saybolt 50°C.	V. Sec. Saybolt 98.9°C.	V.I.	V.-Sp. gr. constant	Pour pt., °C.	B.P. °C.
8	2,125	49.4	.....	.....	....	....	..	.....	...	...
30	336	7.8	1.004	.....	. ..	3,730	..	0 908	...	...
40	257	5.95	0.9885	.....	....	1.757	..	0 896	...	...
50	293	6.8	0.9665	.....	....	731	..	0 876	+9	293
60	204	4.75	0.9535	.....	9.601	456 7	..	0.871	—1.5	284
70	238	5.55	0.9455	18,181	6,098	334.6	43	0.850 0 862	—3	283
80	169	2.95	0.9365	10,303	3,715	245.6	49	0 843 0.854	—2	288
90	157	3.5	0.9300	6,160	2,353	186.6	50	0.842 0.850	—14	264
100	123	2.85	0.923	3,798	1.522	145.9	54	0.837 0.845	—18	264
130	135	3.15	0.9145	2,166	925.4	106.9	50	0 835 0.839	—18	264
Res.	85	2.0	0.906	1,023	470.2	72 5	41	0.834 0.836	—18	264

Venezuelan residue 4300 gal. dilution, 4.35, weight per cent, per 1 part of asphalt-free residue.

Sp. gr. 1.019, C_2H_6	.....
V. 18° E./100° C., C_3H_8	61 2 %
B. P. 291° C., C_4H_{10} iso	34 63%
Pour pt. + 44° C., C_4H_{10}	4.17%
	100 00%

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natural gas is forced in, a cresol solution of the hydrocarbons separates out as a second liquid phase from the originally homogeneous mixture, and on further addition of natural gas this solution is gradually divided into two phases. In equilibrium state, therefore, three liquid phases exist simultaneously. The lowest layer contains cresol saturated with aromatic components and small amounts of light hydrocarbons, the middle layer consists mainly of heavy hydrocarbons, and the top layer consists of the propane-methane solution with little oil and little cresol. It cannot yet be said definitely whether this method can be used on a technical scale. The tendency to eliminate the harmful effect of high temperatures on high molecular weight oils, which can hardly be avoided even by high vacuum, has led to similar experiments by others. Besides the I. G. Farbenindustrie, the Union Oil Co. of California has developed a method by Ulric B. Bray[12] for the fractionation of mineral oil, according to which topped crude is treated consecutively with different light hydrocarbons from pentane to ethane, and thus fractionated on the basis of solubility. The use of methane solutions of different concentrations, however, seems to be considerably more efficient and also more simple.

A process very similar to ours has been patented by the Standard Oil Development Co.[13]

The products obtained by fractionation with gas solutions are described in detail in the above mentioned article[14]. A comparison of the distillates illustrates the differences of the two methods of separation. For this reason I confine myself to the remark that Polish, Rumanian, Colombian, and Venezuelan residues have been fractionated by the described method without any difficulties.

TABLE A—VARIATION OF VOLATILE COMPONENTS WITH PRESSURE

Pressure used for separation Atm.	Weight of sample removed g.	Pressure—Room temp.	Pressure—Temp. of water bath	Components volatile together g.	Components volatile together %	Volatile components per 100 parts oil
up to 40	425	11	25	148	35	54
40 to 50	538	14	28	221	41	70
60 to 70	536	16	29	194	36	57
70 to 100	444	15	21	137	31	46

Not much can be said at the present about the dark colored substances precipitated at low pressures (30 to 50 atm.). They probably represent largely those substances which are precipitated in the sulfuric acid refining process, partly by sulfonation, and partly by polymerization. The specific gravity of these gummy semi-solid substances is about 0.990-1.020 and their viscosity at 100° C. about 20° E. Their mean molecular weight is relatively low and lies between 450 and 500. It is not impossible that a closer investigation of these

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SHAFFER ROTARY RELEASING SPEAR

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fractions will yield valuable information about the highest molecular weight components of petroleum which can never be obtained by distillation in their original state.

This applies also to the asphalts obtained by precipitation with propane. Since they are thoroughly freed from oil by propane, they are very brittle, but can be made quite ductile by mixture (fluxing) with the resinous fraction. Unmixed, they are, as an oil-free product, a suitable material for the preparation of paints, etc.

Summary

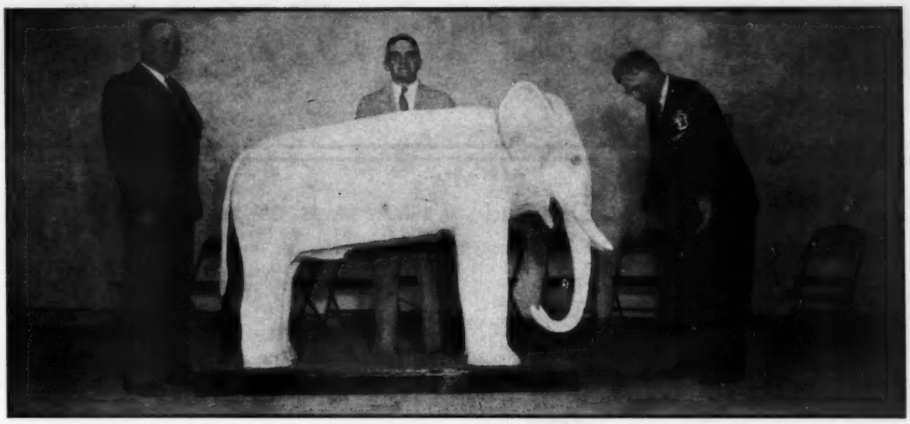
A process for the fractionation of crude oils or petroleum residues at room temperature is described, based on the fact that the raw material dissolved in suitable solvents is precipitated in fractions by stepwise introduction of soluble gases such as natural gas under pressure.

The asphalts, gums, and oils thus obtained have neither been modified by heat nor by chemical reactions and therefore represent probably the true original components of petroleum. This method of fractionation also seems to be suitable for the examination of high molecular weight components of petroleum and in general for the separation of substances sensitive to heat.

Foot Notes

1. Engler-Hofer IV, p. 15.
2. Pol. Pat. 1029 and Ger. 362,458 of 11-13-21.
3. Pol. Pat. 20,607 of 2-6-33, and Przem. Chem., v. 18:376 (1934).
4. Gas Analysis: CH_4, 97.3%; C_2H_6, 0.72%; C_3H_8, 0.18%; C_4H_{10}, 0.12%; N_2, 1%; CO_2, 0.03%.
5. Brennstoff-Chemie, v. 4:17 (1923).
6. Ind. Eng. Chem., v. 23:948 (1931).
7. Waterman et al, J. Inst. Petr. Tech., v. 21:661 (1935).
8. Cf. v. Zwerger, Oel und Kohle, v. 11:319 (1935).
9. Ind. Eng. Chem., v. 26:214 (1934); Lacey et al found that at 90 atm. and 23° C., the mole fraction of methane was 0.574.
10. The Oil and Gas Journal (4-25-35), p. 13.
11. Przem. Chem. 1 c.
12. U. S. pat. 1,988,713.
13. Fr. Pat. 770,903, U. S. Priority of 6-10-33.
14. Przem. Chem. 1 c.

"WHITE ELEPHANTS AT THE DOOR"



When the white elephant is placed before the entrance to any department at the Tulsa refinery of the Mid-Continent Petroleum Corp. because of that department's disorderly appearance, an immediate improvement in conditions follow. The presence of the silent, white elephant has done more to keep things in shape at the plant than all of the meetings, pep talks and orders tried earlier.

The procedure for determining where the white elephant is to be placed has been worked out by the plant safety directors. In practice the safety department bases its decision upon the results of an impartial investigation made periodically by plant men who compose a committee, the membership of which rotates in order to give all divisions of the plant proportionate representation over the year.

In other plants, if the idea was adopted, another method might be applied but definite advantages are to be found in leaving the decision to the operators themselves. If the various departments in the plant are found to be up to a standard the entrance to the safety directors office is adorned with the white elephant, and that means that all departments are clicking. On one occasion the committe's investigation showed negligence in one department and attention was called to tools laying on the floor of one of its buildings. The decision was made to have the elephant transfered to that department on the following morning but before the elephant arrived the entire department had reported early and completed the clean up job before work time, a task that would have normally taken days.

In the accompanying picture shown left to right are D. G. Morgan, general superintendent; E. D. Murphey, safety engineer and B. H. Davis, reclaimation foreman, all of the Mid-Continent Petroleum Corp. and located in the company's West Tulsa refinery.

Blows at any desired pressure giving Sure Protection

CF

SAFETY VALVE

Lever Type *Dead Weight Type*

FOR any pressure between 5 and 100 pounds, the lever-type safety valve here illustrated is suitable. Below 5 pounds, C-F dead-weight safety valves are recommended. These valves never stick, never fail. Of superior design and workmanship, they have been proved by many years of service. The lever-type safety valve is especially adapted for use between the high-pressure and low-pressure regulators of a low-pressure distribution system. Write for full information concerning safety valves and other requirements for gas control.

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Hough Working Barrels are *seamless*—for longer life under severe conditions. Made to A.P.I. specifications from highly specialized cold-drawn tubing. All standard sizes—with smooth, bright bore or chromium-plated bore. ● Oil-field distributors carry Hough products in stock. The Charles N. Hough Mfg. Company, Franklin, Pa.

Hough SEAMLESS STEEL Working Barrels

PROBLEMS FROM READERS

Edited by T. F. Smiley

Fine Sand Rolls in After a Shot and Shuts Off Oil Flow in the Well

I have wells in the Bartlesville in the Chanute, Kans., district, where there often is trouble after the shot, when the shot does not clean the hole. It seems the fine sand forms a mud which shuts off the oil flow. I am writing to find out how this trouble can be avoided, and if it happens what one can do to remedy the situation. It seems that when enough glycerin (solidified) is used the holes clean themselves, but where the shot does not come out a very fine sand rolls in and seems to pack off the wall of the hole. Swabs and pumps are used without results.—J. P. C.

Your inquiry brings up the old question: What is a good shot? A well-known authority on explosives, after reading your question, says the expensive cleaning out and other poor results are at least 50 per cent due to poor shooting practices growing out of sticking to old methods.

A large amount of cleaning out is indicative of any or all of the following conditions: (a) The velocity of detonation of the explosive used was too great for the type of rock in which the explosion occurred and this resulted in intense local pulverization of the material forming the walls of the hole. (b) A considerable portion of the debris cleaned out consists of cavings brought into the shot area by the impact of the shot on the generally tender overstructure. (c) As is too often the case the entire pay horizon was covered by the shot extending vertically from the bottom of the hole to the very top of the pay. (d) The shot was not properly confined to do useful work where work needed to be done. (e) False economy or undue haste caused the use of an improper firing device or solid tamping was not given proper time to settle. Let us consider each of the foregoing points in order:

(a) If we have in the saturated zone a tender crumbling stone or a stone of low crushing strength, we should not expect it to react to a high-velocity pulverizing shock as would an extremely hard stone of high crushing strength, yet that is what the average producer does expect because he treats a well having one condition exactly the same as the well having the opposite condition, probably because he does not realize that the explosive can be more or less harnessed and controlled. In the territory under discussion solidified nitroglycerin and other gelatin explosives are used almost exclusively. It happens that while S.N.G. has a maximum velocity of detonation of 23,600 feet per second (same as L.N.G.) that velocity can be obtained only when confined at atmospheric pressure, though it decreases in velocity under conditions of pressure. In other words, when the pressure is low the velocity is high and conversely when pressure is high the velocity is low. This means that in a condition such as you have where you want to reach out with the force and effect of the explosion as far as possible with a minimum of local pulverization, then obviously you should use the explosive so that you will get low velocity and a minimum of local breakage. This is accomplished by hydrostatic pressure or by wholly or partially filling the hole with oil after the shot is set on bottom. A substantial reduction in velocity will be noted under a 500-foot head and the minimum velocity will probably result from a head of 1,000 feet or more, depending somewhat on the character and the physical condition of the gelatin explosives used as well as on the specific gravity of the liquid stemming used. A factor here to be considered is that all gelatin explosives are within certain limitations, sensitive in proportion to diameter of the column or shells used.

(b) Where the explosive, whatever type used, is properly or improperly placed, but improperly confined, the force of the explosion, in seeking and taking the line of least resistance, will move upward at high velocity and thereby cause breakage and possibly caving at points above the saturated zone, the drilling and removal of which will have a tendency to mud off the oil or gas or both or at least delay completion of the well.

(c) Wherever practicable, the explosive charge should be concentrated so that it will cover the lower two-thirds of the saturated zone, as by so doing three important and desirable results are obtained: (1) Any quantity of explosives is more effective in accomplishing the results desired of oil well explosives if such explosive is concentrated. For instance 100 quarts is more effective in 66 feet than in 100 feet because of the greater pressure per foot of wall area, which means greater reach on a horizontal plane than would or could result from 100 quarts in 100 feet. (2) Concentration of the quartage used to the lower two-thirds of the saturated zone will lessen the danger of damaging the overstructure and will reduce the amount of the material to be cleaned out.

(d) The usefulness of an explosive or the amount of profitable work it is capable of doing is proportional to a considerable extent to the degree of its confinement.

(e) As proper confinement of a charge of nitroglycerin makes it necessary to use a time bomb and sand or gravel which add slightly to the cost of a shot, many operators continue to use a squib of one kind or another for the sake of economy, not realizing that by so doing they often may jeopardize their chance of bringing in a paying well. This is particularly true in localities where "the shot makes the well." Wherever a shot is or can be beneficial, the investment in it and in the well itself should be safeguarded by the use of proper shooting methods.

WHY THEY CALLED IT *Alloy*

One of the most interesting things about alloys now widely used in the oil industry to gain hardness, resistance to corrosion, or some other quality is the fact that, contrary to popular supposition, they are not a new metallurgical development. Primitive craftsmen often used them. "Early metal-workers used natural alloys which occurred in the earth," says J. S. Vanick, research metallurgist. "Then science stepped in and gradually taught us how to separate the metals from one another. Now we are learning to put them together again." Mr. Vanick cites the copper-nickel compounds as an example of modern metallurgy's return to nature's arrangement. "Alloy" is from the French "aloi," which in turn is from an Old French word meaning to combine.

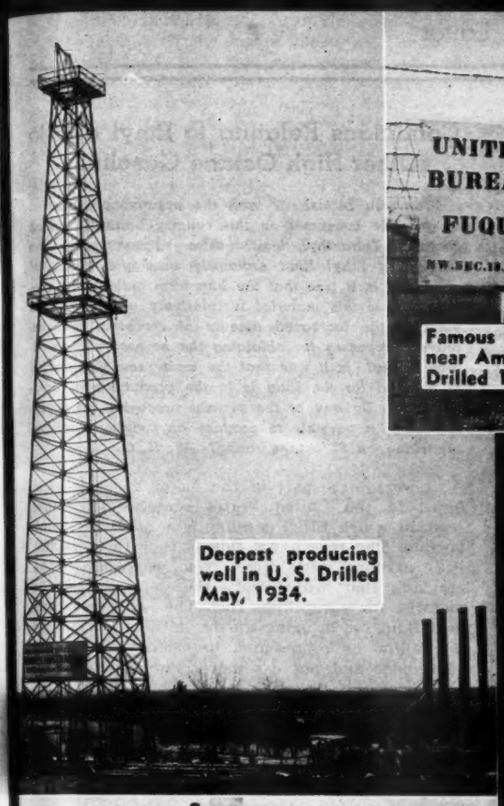
Core-Drill Valuable, But Not Meant to Supplant the Standard Outfits

In answering a question which was sent by R. L. E. you say the core-drill is often used to drill deep experimental wells, where if commercial production is indicated, rotary or cable outfits may be employed later for development. Why couldn't this method of drilling be used in putting down almost any well, without using the rotary or cable outfit at all? Has the core-drill ever been used that way or is the hole too small for production purposes?—S. H. N.

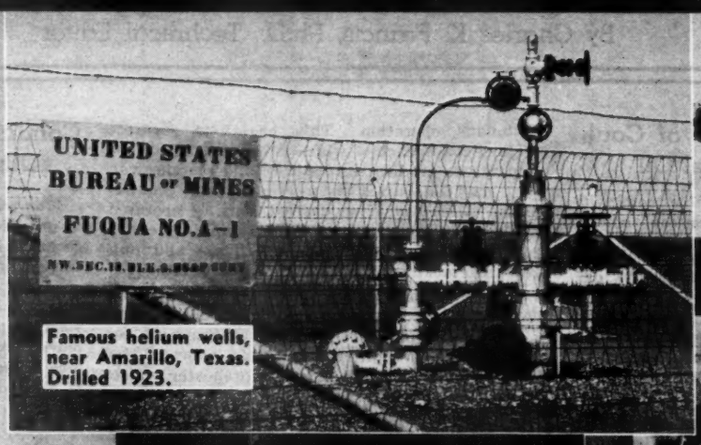
The diamond core-drill's main field of usefulness in the oil industry is likely to remain in exploration and prospecting, where the primary aim is to obtain geological information rather than to get a producing well. It offers a relatively inexpensive method of finding out with certainty whether oil is present at any given spot. Bearing in mind the fact that many dry holes usually are drilled for every one that yields oil or gas in commercial quantity, it becomes plain that the inability of the small diamond-drill hole to produce oil economically is a relatively unimportant consideration. Also the diameter of the hole made with a core-drill can be increased 50 per cent by reaming, which in some cases makes the size as large as is necessary. The core-drill provides the geologist with an actual core of the rock formation penetrated, showing the material just as it occurs in place. By proper measurements the cores even may be oriented with respect to the compass, so that the degree and direction of the dip of the strata may be approximately determined. L. C. Uren, in his work on "Oil-Field Development," says on this point:

"While it is generally conceded that the diamond drill is not well adapted to the drilling of oil wells in cases where a means of producing oil from a known oil deposit is the objective, there are notable exceptions which seem to indicate that under favorable conditions wells might be economically drilled for production by this method. For example, in the Panuco field of Mexico, a diamond drill was used in the drilling of a well which was brought in with an initial production of 1,200 bbls. per day and subsequently successfully operated as a producing well. The well was drilled to a depth of 2,153 feet and was finished with a minimum diameter of 3⅝ inches. Gas pressures in excess of 750 pounds per square inch were encountered. The drilling speed, using the diamond bit in hard rock, averaged 75 feet per day, but it is probable that double this footage could be maintained with a skilled crew and a longer core-barrel than the 13-foot barrel which was used. This well was completed in less than 90 days, though the average time of drilling to production in the district, with cable tools, is five months. The cost was about 60 per cent of the current contract price in the field. About 85 per cent of the core was extracted.

"Other wells have been drilled for oil with diamond drilling machines in the fields of Canada, Burma, California, Argentina and Venezuela, particularly in exploration work. Economy in casing is an important advantage of the diamond drill in comparison with other drilling methods, owing to the ability of the diamond drill to operate with smaller clearances. Forty per cent saving in casing requirements is claimed for the diamond drill, and, largely because of this, it is asserted that wildcat wells can be drilled for 20 per cent less than by other methods. The capacity of the larger machines also compares favorably with other types of equipment. An operator in Venezuela has set 200 feet of 16-inch casing, 1,000 feet 11¾-inch, and 4,050 feet 6⅝-inch in 56 days. Continuous core was recovered in this well whenever desired."

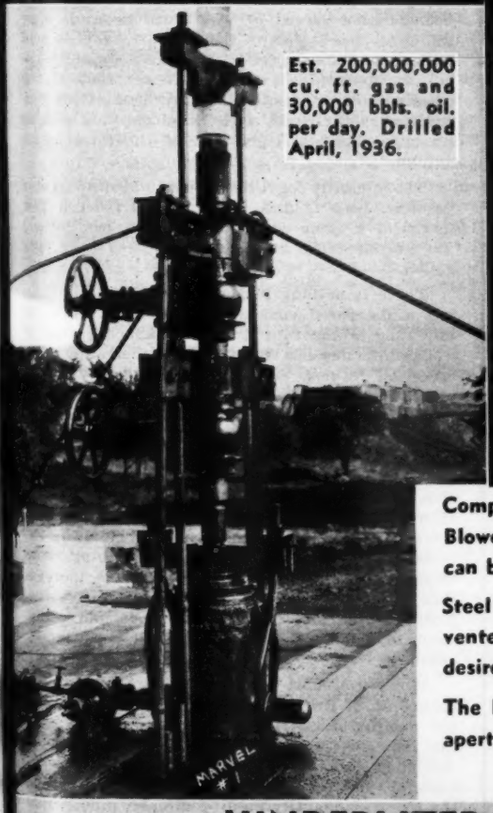


Deepest producing well in U. S. Drilled May, 1934.

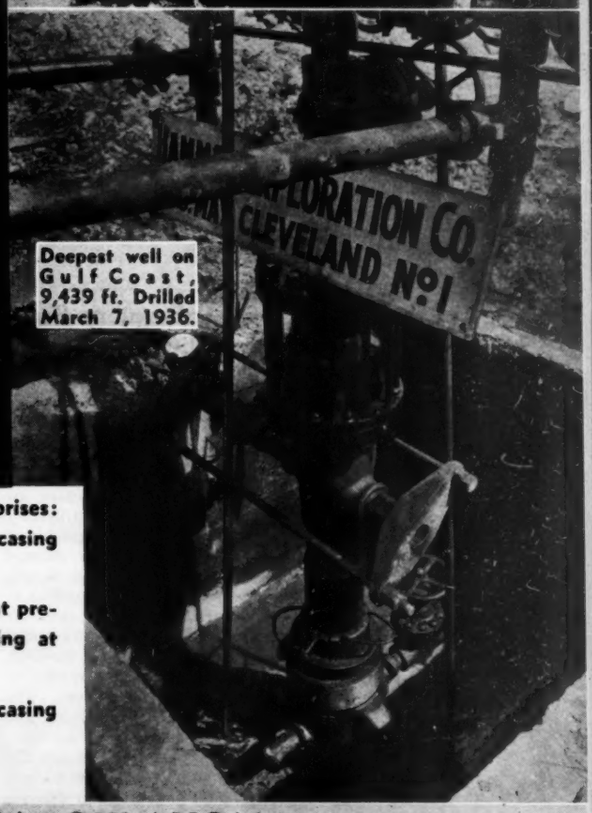


Famous helium wells, near Amarillo, Texas. Drilled 1923.

Largest gas well in world. Drilled May, 1936.



Est. 200,000,000 cu. ft. gas and 30,000 bbls. oil. per day. Drilled April, 1936.



Deepest well on Gulf Coast, 9,439 ft. Drilled March 7, 1936.

Complete 3-IN-1 Casing Head Hook-Up unit comprises:
Blowout preventer through which well tubing or casing can be lowered under pressure.

Steel bushing and wedges resting on top of blowout preventer to hold and suspend well tubing and casing at desired depths.

The head itself which includes well tubing and casing apertures and threaded adjusting bushing.

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HINDERLITER TOOL COMPANY, TULSA, OKLAHOMA

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Comparative Fuel Value of Coal, Natural Gas and Fuel Oil

Can you furnish some comparative fuel costs with figures based on operating efficiency on coal, natural gas and fuel oil for industrial consumption?—R. P. T.

The delivered cost of these fuels always depends upon local conditions, the most important being the transportation expense, which varies with the distance from mines, wells and refineries. Any comparison of costs must be made either on the basis of local costs or some assumed conditions covering consumption.

Comparative fuel costs are considered to be of little value, except as they may reflect the efficiencies of the several fuels under the specific conditions of test. It is essential that all conditions be fully detailed and considered when endeavoring to arrive at a conclusion of this kind. At best the results can be no more than approximations. The actual heating value, B.t.u., of the fuels, coal, gas and oil may be determined as a foundation. Important variables include type, size and shape of the furnace; methods of firing; air or steam pressures on the burners; forms of burners, etc.

Frequent use is made of the very approximate equivalents—one ton of coal representing 3 bbls. of fuel oil or 18,000 cubic feet of natural gas. An exact value must be obtained by analysis. Good industrial coals have a heating value between 10,000 and 15,000 B.t.u. per pound; natural gas 1,000 B.t.u. per cubic foot or 22,000 B.t.u. per pound; fuel oil, at an average gravity of 15° A.P.I. 18,850 B.t.u. per pound. The delivered efficiencies of these fuels are often far apart. Coal with stokers shows between 27 and 60 per cent; with cold air 46 to 59 per cent, as against 56 to 75 per cent with hot air.

The American Gas Association has reported the following gas equivalents: Fuel oil, 6,110 to 6,640 cubic feet per barrel; pulverized coal, 24,410 to 27,410 cubic feet per ton, and from 16,000 to 26,070 cubic feet per ton for stoker and hand-fired operation.

Reference: Combustion, third edition, page 195, Amer. Gas. Assn.

Cracking Still for Laboratory Scale Investigations

We would appreciate it very much if you would send us all of the information you have concerning the operation of a cracking bomb. If there is any literature on the subject we would appreciate it if you will mention something about it.—J. C. H.

The simplest form of a laboratory cracking apparatus for batch operation consists of a still made from a flanged bull nipple having a capacity of approximately three liters. Inserted in flanged top are a pressure gauge, attached to an S coil, a thermometer well and a small tower leading to the vapor line. A valve for the control of pressure is set in the vapor line, close to the condenser coil. The condensate may flow into a receiver, also flanged, similar to the still, and provided at the bottom with a draw-off line, valved. The flange is fitted with inlet and outlet lines and a pressure gauge. The outlet line is fitted with a valve so that pressure may be held through the condenser, when desired. Tight connections are essential. The flanges should have annular grooves into which asbestos packing may be placed. A copper gasket should be fitted between the flanges, which are bolted with six to eight bolts. Heavy piping, connections and valves should be used throughout.

A pilot cracking unit has been described by Gary and Ward in The Oil and Gas Journal, for continuous operation. This has four separate cracking zones, each of which is so constructed that temperature gradients, pressures, and reacting volumes may be varied to meet arbitrary requirements. All zones, if so desired, may be operated simultaneously; permitting for example, viscosity breaking naphtha reforming, vapor phase and high pressure cracking as concurrent operations.

When a multiplicity of streams is in operation, the proper recycle charges are fractionated within the tower equipment, and are continuously returned to their optimum cracking zones. The charging stock is pumped into a preheater which discharges into the cracking coils, immersed in lead baths, then to soaking drums, also in lead baths, from which the vapors flow to evaporator and flash towers. Next the overhead vapors pass through towers, partial condensers, then to a bubble tower and finally through a condenser to a receiver and stabilizer.

References: Sachanen and Tilicheyev, Chemistry and Technology of Cracking. Gary and Ward, Design and Operation of a Small Experimental Cracking Unit for Routine Refinery Control. The Oil and Gas Journal, May 25, 1933.

SPECIFICATIONS

GREASE FOR RECOIL MECHANISMS

Grease used for recoil mechanisms of the various caliber guns by U. S. Army.

PROPERTIES AND TESTS

SOAP CONTENT—The grease shall contain approximately 22 per cent (by weight) of calcium soap.

CONSISTENCE—Similar to the trade standard for No. 4 grease.

MOISTURE—Less than 3 per cent (by weight) of water.

CORROSION—A clean copper plate shall not be discolored when submerged in the grease for three hours at a temperature of 212° F.

ASH—The ash content shall not be greater than 3 per cent by weight.

FILLERS—Shall contain no fillers such as resin, resinous oils, soapstone, wax, talc, powdered mica or graphite, sulfur, clay, asbestos, or any other filler.

SEDIMENT, extracted, max. 0.1 per cent.

SEDIMENT insol. 1-5 HCl, max. 0.01 per cent.

If the insoluble sediment causes objectionable scratches when subjected to the abrasion test, the grease will be rejected.

STABILITY—A sample of the grease shall be heated to 200° F. and held at that temperature for 30 minutes and then permitted to cool. Upon cooling the grease shall return to approximately its original state and there shall be not more than 5 per cent by volume of free oil remaining separate from the grease.

The grease shall be a well-manufactured, homogeneous product, composed of a calcium soap made from high-grade animal or, vegetable oils or fatty acids and a highly refined mineral oil having a Saybolt viscosity of approximately 100 seconds at 100° F.

Reference: U. S Army Quartermaster Corps, Specifications No. 2-39C.

Conditions Relating to Ethyl and to Other High Octane Gasolines

Can you furnish us with the approximate amount of gasoline consumed in this country annually which contains Tetraethyl lead? Also approximately the amount of Ethyl fluid ordinarily used per gallon of gasoline. Is it true that the long-term outlook for consumption of this material is relatively unfavorable in view of the increased amount of cracking, and improved processes for obtaining the necessary high octane rating? Is it true that the most promising source of demand for the fluid is in the production of aviation fuel? Do any of the present processes for cracking make it possible to produce an aviation fuel approaching an 87 octane rating?—W. H. G.

A very large part of the motor gasoline marketed in the United States contains tetraethyl lead, of which Ethyl gasoline is a relatively small portion. The reason for this is that there is but little gasoline made direct from petroleum or by cracking that will satisfy the demands of the motorist for a knockless fuel. The addition of the lead fluid for bringing up the antiknock value of a gasoline as represented by octane number, is convenient and not expensive. For several years all leaded gasoline was marketed at a premium price, usually at 3 cents per gallon above the price of the regular grade. Recently the addition of the lead fluid has been permitted for making the regular non-premium, or Q grade, but limiting the quantity to be added so that the octane number shall not exceed 70. The premium grade, now selling at 2 cents above the regular grade, is sold with a minimum specification of 78 octane number. It appears that possibly 70 per cent of the gasoline now distributed in the United States contains tetraethyl lead, with Ethyl gasoline making up approximately 5 per cent of the total motor gasoline.

The quantity of Ethyl fluid added to motor gasoline, both Q and Ethyl, varies from a few tenths of a cubic centimeter to 3 cc. per gallon; the average may be something like 1½ cc. per gallon.

There is nothing in sight at this time indicating a decreased consumption of Ethyl fluid at any time in the future. The antiknock rating of a gasoline depends to a large extent upon the crude oil refined. Some improvement may be accomplished through cracking, especially polymerization, but the quantity of high octane number gasoline which may be made by special refining methods is small when compared with the total required, and the necessary equipment is expensive. It should be noted that motor gasoline is a cheap material, selling at the refineries for 5 to 7 cents a gallon. The state taxes and handling expense bring the retail price up to something above 18 cents a gallon. If it were possible to increase this price, it would then be possible for the refiner to use more expensive methods and equipment to make a fuel having a higher antiknock rating.

It is permissible to add much larger quantities than 3 cc. of Ethyl fluid to certain gasolines used for aviation fuel. However, the volume of gasoline required for the use of aircraft is very small. Assuming a total consumption of gasoline by motor vehicles this year to be 18,000,000,000 gallons, and the reported quantity used by aircraft during 1935 to be 33,260,609 gallons, it is clear that the volume required for the aviation industry can have but little influence.

Combination cracking and polymerization operations have been reported to have produced gasoline having 100 octane number.

Many Changes Recommended in Committee D-2 Report

In its annual report, A.S.T.M. Committee D-2 on petroleum products and lubricants presented numerous recommendations affecting standard test methods in its charge, all of these being approved by the A.S.T.M. annual meeting. The tentative method of test for gum content of gasoline (D381-34T) is to be adopted as standard with certain changes, and a number of tentative revisions of standards were approved for submission to society letter ballot, including the test for viscosity.

The report recommended the revision of four standard methods, the revision of one tentative standard, the adoption of the tentative revisions of six standard methods as standard, the adoption of one tentative standard method as standard, and the withdrawal of two standard methods.

Committee D-2 and a number of subcommittees and technical committees held meetings during the annual meeting of the society. The subcommittee on viscosity, J. C. Geniesse, chairman, has prepared a modified viscosity-temperature chart approximately one-half the size of the tentative standard chart (D341-32T). The modified chart will be letter size and will be more convenient to file with correspondence. The publication of the modified chart was authorized. The subcommittee is preparing kinematic-Saybolt viscosity conversion tables which will be based on the best available information. The tables are necessary for developing the usefulness of the two types of kinematic viscosity methods which are being published as information.

The potentiometric method for neutralization number, which has been developed jointly with Committee D-9 on electrical insulating materials, is to be published for the information of the committee.

Technical Committee B on motor oils was authorized to form a new section on engine deposits, under the chairmanship of W. A. Gruse. An article has been prepared (under the chairmanship of L. L. Davis) which provides recommendations for a uniform practice of changing crankcase lubricating oil. This material should be of particular interest to automobile manufacturers in the preparation of service manuals. The draft was approved and, subject to the favorable reaction from the entire committee, will be given wide publicity.

Technical Committee B accepted the responsibility of preparing and presenting a symposium on motor oils to be held in conjunction with the regional meeting of the society at Chicago in March, 1937. The symposium will stress the new developments in automotive lubrication which have transpired since the previous papers were presented in the 1933 symposium.

Sectional committees of technical Committee C on fuel oil proposed changes for the viscosity and ignition characteristics of the present classification of diesel fuel oils, and also a number of changes in the specification limits of the present tentative specifications for fuel oils. The proposed changes are to be submitted to technical Committee C for letter ballot, and, if favorably received, will be offered to the entire committee for their reactions.

The biennial election resulted in the reelection of the present D-2 officers, namely, T. A. Boyd, chairman; T. G. Delbridge, vice chairman; R. P. Anderson, secretary. The following members were elected to the advisory subcommittee: Messrs. Oberfell, Rogers, Dean, Farmer, Veal and Bridgeman.

At the annual dinner of the committee, G. G. Oberfell was the guest of honor. About 50 members and their friends were present.

To Check Truck Shipments

AUSTIN, Tex., July 18.—The Texas Railroad Commission has issued an order to halt the issuance of fake manifests or permits to move oil products by truck.

Shippers will be required to indicate the number of gallons of products shipped, the hour, month, day and nearest quarter hour by perforating the paper on the appropriate number.

WHEN YOU BUILD OR REBUILD YOUR REFINERY

Specify Devine

A refinery may be complete, but it is never finished—as long as it stays in business.

Refineries always need replacements and improvements to keep them in the running.

Cracking units have to be built or rebuilt. Other units have to be installed to cut costs and improve products.

Equipment must be bought and that is where DEVINE enters the refining picture.

We don't build refineries or install complete units, but we do build the equipment that goes into them—pressure vessels, bubble towers, absorber towers, heat exchangers, condensers, coolers, and the like.

And we know how to build them.

Whether your own men handle your design and construction or whether you let the job to a contractor, you ought to specify DEVINE equipment.

Because it is built in the best of shops by men who know their business.

And guaranteed by DEVINE.

Devine
REFINERY EQUIPMENT

The J. P. DEVINE MANUFACTURING CO., INC., MT. VERNON, ILLINOIS

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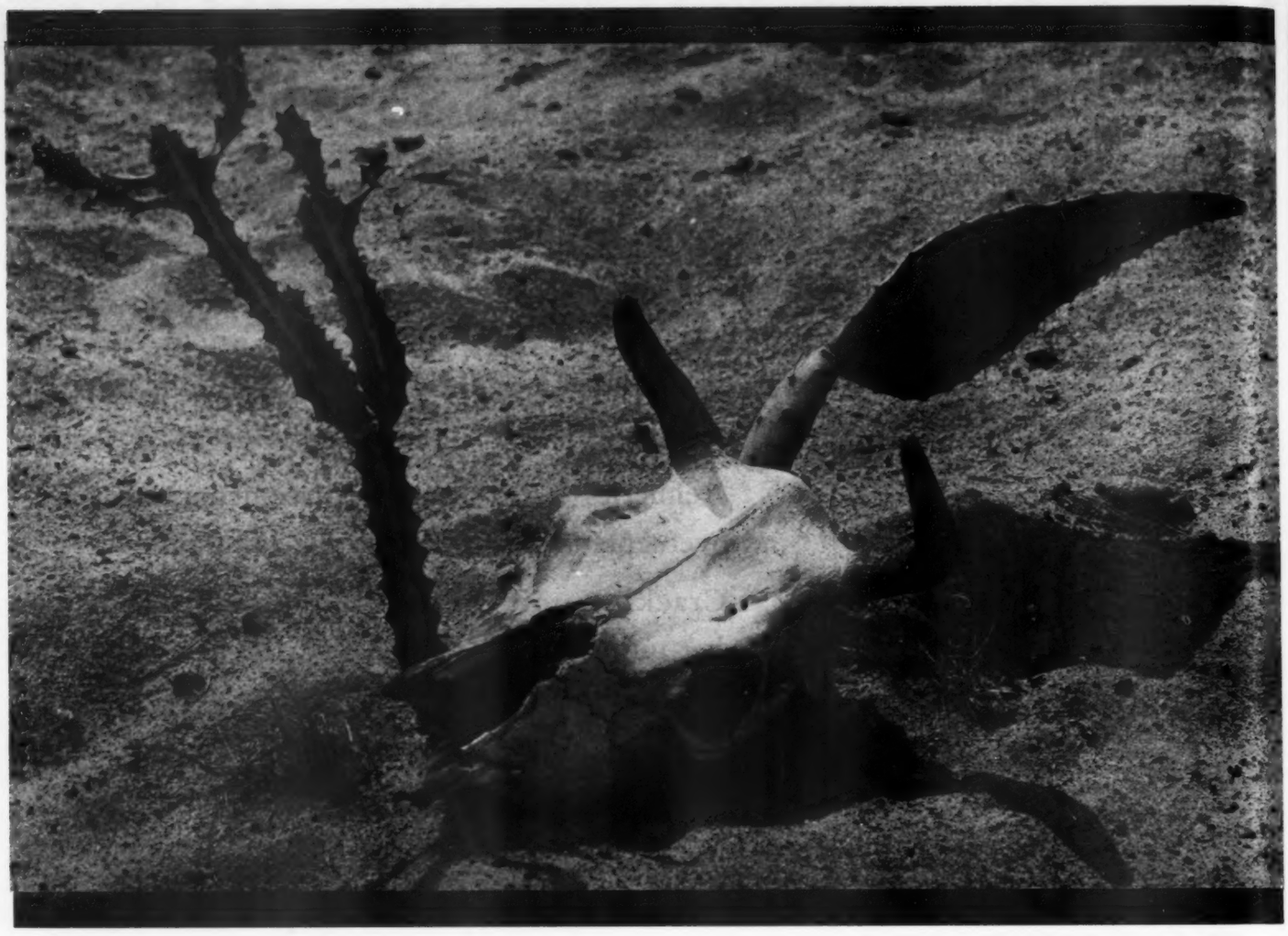


When the Sun Bears Down...

In the long Summer days when only a man's man can take what the sun gives in the fields, along the pipe lines and around the refineries . . .

When heat waves ripple from scorched steel and the leaves of trees are etched in silence . . .

When dust drifts in dunes and the nights are restless with broken sleep . . .

When men's tempers grow sharp and their minds critical . . .

. . . then it is that the sturdy dependability of Frick-Reid products and the willing service of the Frick-Reid organization cements old friendships and creates new allegiance.

FRICK-REID SUPPLY CORPORATION

PITTSBURGH, PA. *Stores Everywhere* TULSA, OKLA

FIELD OPERATIONS

Summarizing the Week's Developments

Of 468 wells completed in the United States last week, 353 were oil wells, 21 gas wells and 94 dry holes. The total exceeded that of the previous week by 26 wells.

OKLAHOMA

The largest initial producer ever drilled in Oklahoma is in the Crescent pool in Logan County. It is an old well deepened in the Wilcox sand. It flowed several hours at the rate of 52,280 barrels per day and was then shut in. A test drilling between the Britton and Oklahoma City fields is the most interesting wildcat in the state. It is now drilling in the Simpson series.

KANSAS

A Siliceous lime pool was opened in section 1-19-11w, eastern Barton County, Kansas, and a wildcat in section 21-15-15w, Russell County, bailed 6 barrels of oil per hour and is believed to be a pool opener. A test 6 miles northeast of the Ritz-Canton field in McPherson County flowed 931 barrels after acidizing. Several pools were extended short distances.

NORTH LOUISIANA

Estimates on Rodessa, Louisiana-Texas, reserves by engineers credit the field with an ultimate yield of 17,000 to 20,000 barrels of oil per acre. First estimates made in the early days of the field ranged all the way from 5,000 to 40,000 barrels per acre. The field has already produced over 10,000,000 barrels of oil.

OHIO

The old Pennsylvania Grade fields continue to yield surprisingly good wells occasionally, and in the past week Perry County, Ohio, reported a 110-barrel well and Licking County an 85-barrel initial producer.

CALIFORNIA

The opening of the Stevens field in Kern County, California, started a widespread seismographic survey. No less than a dozen crews are employed north and south of the Shell Oil Co.'s discovery well. Attention this week is centered on a test in the Rosecrans area in Los Angeles Basin which cored an oil sand. General Petroleum Co. penetrated two productive sands in a wildcat in the Wilmington district and is drilling down to find a third. A wildcat in the Playa Del Rey area also cored an oil sand a mile east of the field.

SOUTHWEST TEXAS

Extensions of pools and prospective new pools feature Southwest Texas news. in Aransas County a test bottomed at 6,554 feet showed gas production and some distillate on Monday of this week.

GULF COAST FIELDS

Shell Petroleum Corp. opened a pool at the Nome prospect in northwestern Jefferson County, Texas, with a well that flowed 251 barrels of oil in 10 hours through a quarter-inch choke.

WESTERN TEXAS

Forty-three locations were staked in the West Texas fields in the past week. Two important wildcats in Winkler County were abandoned as failures. A new pool was opened in Jones County about 5 miles southeast of the Lueders pool. The largest natural producer yet found in the Goldsmith pool, in Ector County, extended the pool. It flowed 2,010 barrels of oil in 17 hours.

EAST CENTRAL TEXAS

The Sulphur Bluff pool in Hopkins County, southwest of the Talco pool in Titus and Franklin Counties, produces the same kind of low gravity oil as Talco. The discovery well, drilled by Dilworth Hager and others, is estimated to be good for 300 to 500 barels of oil per day. The owners continue reticent and operators are waiting for more definite information on the well before taking any action. Two wells in Titus County were abandoned as dry and one in Franklin County was a failure.

MICHIGAN

Prospects of a new pool in Michigan pleased operators and refiners in that state. A wildcat in Gladwin County swabbed 15 to 30 barrels a day in its initial test of Dundee sand.

Completions in All Fields

(Week Ending July 18, 1936)

	Oil	Gas	Dry	Total	1936 comp. to date	1935 comp. to date
Penna. Grade Fields	64	0	16	80	1,592	1,550
Lima Field	1	0	0	1	32	51
Central Ohio	0	7	1	8	164	222
Indiana	1	0	5	6	89	106
Illinois	0	0	0	0	11	9
Michigan	6	6	2	14	308	252
Kentucky	0	0	0	0	120	123
Kansas	34	1	6	41	863	630
Oklahoma	22	1	2	25	1,329	977
North Central Texas	30	0	13	43	1,483	1,203
West Texas	32	0	3	35	764	412
Texas Panhandle	14	1	0	15	374	351
East Central Texas	5	0	4	9	161	131
East Texas	43	0	2	45	1,502	2,707
East Texas border	0	0	0	0	29	5
Gulf Coast Texas	18	1	4	23	615	552
Southwest Texas	46	2	16	64	1,570	750
Total Texas	188	4	42	234	6,498	5,760
North Louisiana	5	2	2	9	349	158
Gulf Coast Louisiana	5	0	2	7	206	206
Total Louisiana	10	2	4	16	555	364
Arkansas	1	0	1	2	51	77
Montana	3	0	1	4	118	72
Wyoming	2	0	0	2	45	28
Colorado	0	0	0	0	16	8
New Mexico	8	0	0	8	309	143
Utah	0	0	0	0	5	4
California	13	0	14	27	654	732
Total United States	353	21	94	468	12,759	11,459
Total previous week	339	52	103	494	12,288	11,082
Difference	14	31	9	26	.....	.....

Outstanding Fields—Highlights

(Week Ending July 18, 1936)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	1	7	2	1,302	96	9,267
Hastings	2	4	2	984	81	7,957
Loma Novia	1	9	10	2,940	164	15,800
Seven Sisters	4	9	7	2,370	237	6,900
Saxet Heights	3	12	7	1,215	123	8,250
Saxet	5	26	8	1,310	161	12,200
East Texas	49	177	43	*1,853	21,013	431,750
Talco	12	30	2	†83	8	2,150
OKLAHOMA						
Oklahoma City (Capitol area)	4	49	5	6,378	107	47,150
Oklahoma City (old field)	0	1	0	.....	971	102,800
Fitts	15	61	7	4,761	408	45,100
Burbank-S. Burbank	0	16	0	.....	2,147	22,900
KANSAS						
Ellis County	4	29	1	664	35	2,430
Reno County	1	33	2	1,715	288	16,100
Russell County	4	47	7	6,093	426	20,452
Rice County	1	37	6	3,928	531	34,697
NEW MEXICO						
Lea County	17	69	7	10,897	879	69,320
LOUISIANA-TEXAS						
Rodessa, La.	4	40	4	2,112	230	58,900
Rodessa, Tex.	1	15	0	.....	23	6,100
Gillis, La.	1	4	1	612	45	15,339
Tepetate, La.	2	1	1	275	21	4,567
MICHIGAN						
Porter-Yost	7	13	2	310	383	17,556
Crystal-Montcalm	7	15	2	300	135	6,073

*Average duration of initial flow 2 hours 26 minutes per well. Average initial production 18 bbls. per hour per well. †Barrels per hour.

Eastern Field Report

By STAFF CORRESPONDENT

FINISH GOOD SIZED WELLS IN TWO SOUTHEAST OHIO FIELDS

PITTSBURGH, Pa., July 18.—In spite of the intense heat and lack of water, eastern operafors were able to complete 27 wells during the week of which 16 were gas wells, 4 dry holes, and 7 producers with an initial daily production of 214 bbls.. All but 2 bbls. of the new production was in southeast Ohio.

SOUTHEAST OHIO

The largest producer for the week was in Perry County. In the southeast quarter of section 25, Coal Township, Kachelmacher estate completed No. 13 Hemlock Coal Co. tract in the Clinton sand at a depth of 3,602 feet. It produced 110 bbls. the first day after shot.

Another fail producer was completed in Licking County. In the northwest quarter of section 17, Hanover Township, Hope Construction & Refining Co. completed No. 4 Jesse Cartnal in Clinton sand at 3,080 feet. It produced 85 bbls. the first day after shot.

In Athens County, A. D. Townsend and others completed a test on the Elmer Bobo farm near Jerseyville in section 24, Lodi Township, in the Maxon sand at a depth of 742 feet. It is a gas well gauging 600,000 feet a day.

In Belmont County, Union Gasoline & Oil Corp. drilled No. 4 Albert Smelko, section 26, Richland Township, in Berea sand at 1,664 feet. It produced 2 bbls. the first day after shot.

In Coshocton County, Ohio Gas Light & Coke Co. completed a 50,000-foot gas well on the Holderbaum Brothers farm in section 10, Mill Creek Township, through Berea sand to 981 feet.

In Knox County, Knox Exploration Co. completed test on the Isalette Sowers farm, section 21, Knox Township, in the Clinton sand.

In Lorain County, Ohio Fuel Gas Co. drilled a dry hole on the Z. Cavar farm, Lot 31, Eaton Township, through Red Medina sand to 2,615 feet.

In Medina County, Oko Oil & Gas Co. completed No. 49 Jesse McViker, Lot 2, Chatam Township, in Berea Grit at 485 feet. It produced 1 barrel the first day after shot. On Tract 17, Lot 4, E. R. Edson & Son Co. drilled No. 3 Lillian E. Williams through Berea Grit to 530 feet. It was a dry hole.

In Washington County, Edwin Fulmer and others drilled a test on the Edwin Fulmer farm on Shay Ridge in section 13, Ludlow Township, in the Mitchell sand at a depth of 470 feet. It produced 10 bbls. the first day, naturally, and was not helped by the shot. It is about one-half mile north of the Fulmer heirs farm production. In section 19, Lawrence Township, and in the northwest quarter section, E. R. Peavy drilled No. 7 Reader estate farm No. 2 through Second Cow Run sand, and it was dry. The depth was 675 feet.

SOUTHWEST PENNSYLVANIA

Two gas wells were completed in scuthwest Pennsylvania. In Deemston Township, Washington County, Keystone Gas Co. completed a test on the Crawford farm at 1,020 feet. Big Dunkard sand was at 902 feet with 520,000 feet of gas showing at 905-07 feet.

In Richhill Township, Greene County, Null and others completed a test on the Ben Polen farm in the Fifty Foot sand and Gordon Stray sand at a depth of 2,699 feet. It gauges nearly 500,000 feet a day.

In South Strabane Township, Washington County, Victor Behm & Co. are drilling at 2,385 feet on the William Paul and Sons farm. In Peters Township, R. M. Duden and others have started drilling on the E. J. Johnston farm.

In South Franklin Township, Washington County, Union Gasoline & Oil Corp. is down 1,310 feet on the H. R. Post farm. South Penn Oil Co. started drilling on the Piedmont Coal Co. farm. E. H. and J. B. Tague are drilling No. 14 Adaline D. McKennan estate. Furman Nuss and others are down 970 feet on the W. D. Hallam farm.

In Amwell Township, Washington County, Carnegie Natural Gas Co. is building a road to the R. M. Carrons farm, and also to the N. B. Redd farm and will drill on each.

In East Finley Township, the Union Gasoline & Oil Corp. is drilling in the top of the Ninevah Thirty Foot sand in No. 5 J. N. Clutter, and have cleared a location for No. 6. Duquesne Gas Co. is down 2,014 feet in No. 3 N. B. Rogers. In Morris Township, A. V. Lewis and others have reached 2,600 feet on the H. Sanders farm.

In Morris Township, Greene County, Manufacturers Light & Heat Co. is down 2,030 feet in No. 2 Anna Wolfe. In Jackson Township, Equitable Gas Co. has reached 2,295 feet on the Hirma White farm. This company has the following drilling: Elizabeth Johnson, Whiteley Township, at 2,005 feet; George Hennen, same township, 1,595 feet; Blanche Haines, rig completed, Perry Township; Morgan Wade drilling at 718 feet, same township; E. L. Brant, 1,720 feet underreaming, same township; down 1,618 feet on the Metrezat and 975 feet on the Mennell farms.

In Dunkard Township, the Convex Glass Co. is drilling at 918 feet on the Leroy McClarnan farm. In Springhill Township, James H. Null, agent is down 1,925 feet in No. 3 drilling deeper on the David Null farm.

In Mount Pleasant Township, Norwood Johnston and others are drilling at 5,500 feet in the deep test on the James McBurney farm.

WEST VIRGINIA

Only one small producer was completed in West Virginia during the week. In Hancock County, the R. J. Braden Co. completed No. 24 Hewitt heirs in Berea sand at 963 feet. It will make 2 bbls. a day initially.

Gas Wells

In Boone County, the Owens-Illinois Glass Co. completed No. 22 Cassingham Coal Land Co., Washington district, in Berea sand at 2,458 feet. It gauges 149,000 feet a day.

In Cabell County, Kentucky-West Virginia Gas Co. completed a fair well on the Farley and others farm. It gauges 2,160,000 feet a day at 1,337-41 feet. In this district, Adkins and Morris completed the test on the Caldwell heirs farm as a small gas well.

In the same district, Cabell County, Gilbert Gas Co. completed the test, a 268,000-foot gas well, on the Gilbert Holton farm at a depth of 3,279 feet.

In Calhoun County, L. P. Bickel completed No. 17 S. T. Stump in Sherman district in the Injun sand and it is a gas well gauging 300,000 feet a day.

In Gilmer County, Pittsburgh & West Virginia Gas Co. completed its No. 7,584 James Vannoy in DeKalb district at 2,106 feet, gas gauging 100,000 feet a day naturally at 2,041-54 feet.

In Kanawha County, West Virginia Gas Corp. completed the second test on the Caldwell farm in Union district in shale rock at 3,800 feet. It gauges 150,000 feet a day. In Big Sandy district, J. B. Weir completed No. 111 Falling Rock Cannel Coal Co. in the Weir sand at 1,780 feet. It is good for 150,000 feet a day.

In Washington district, Kanawha County, Cambridge Gas Co. completed No. 8 Garnet Wiseman and others at 4,304 feet. It is a gas well gauging 148,000 feet a day. In Cabin Creek district, Pure Oil Co. completed its well on the Slaughters Creek Coal & Land Co. in the Berea sand as a fair gas well. Berea lay at 2,620-61 feet and the well made 1,191,560 feet of dry gas a day.

In Lincoln County, United Fuel Gas Co. completed No. 4,622 Horse Creek Land & Mining Co. in Duval district as a gas well at a depth of 4,247 feet. It gauges 440,000 feet a day.

In Marshall County, Guy B. and A. C. Patterson completed a test on the A. Kirby farm in Liberty district in the Fourth sand at 2,676 feet. Fourth sand was at 2,541-51 feet with 300,000 feet of gas a day at 2,544-48 feet.

In Roane County, S. M. Curry and others drilled a test on the Basil Wilson 120 acres in Harper district through the Salt sand to a depth of 1,800 feet and it was dry.

Deep Tests

No wells were completed in the Oriskany field in Kanawha County. The most important test on the Warfield anticline now drilling is that of the United Carbon Co. on the J. A. and M. F. Osborne farm which has reached a depth of 4,435 feet. This test if a gas well would extend the field over 20 miles. It should be completed within a few weeks. In this district, T. W. Dodd and others are down 1,095 feet in the test on the Sallie Cart farm.

In Elk district, two other interesting tests are drilling. Glen Oil & Gas Co. has reached 4,814 feet in the deep test on the Virginia Joint Stock & Land Bank lease (Morse farm) which is 3½ miles northeast of the Copenhaver farm. Its distance east is the speculation. Another test which also is east is that of the West Virginia Gas Corp. on the J. H. Cooper farm and has reached a depth of 4,427 feet. The depths of the other wells in this district are Benedum and Trees-Mary Wingfield No. 2 at 3,200 feet; Columbian Carbon Co.-Grant Copenhaver at 1,466 feet; Yoak Oil & Gas Co.-Goshorn heirs No. 2 at 2,000 feet; Godfrey L. Cabot, Inc.-R. L. Bibby at 255 feet; S. B. Avis, trustee-Grant Copenhaver at 3,675 feet; United Carbon Co.-Henry C. Smith at 1,662 feet; Sandy Elk Oil & Gas Co.-Perry Moles heirs at 1,453 feet; United Fuel Gas Co.-A. J. Bruen and others at 467 feet; United Fuel Gas Co.-C. B. Graham at 160 feet.

In Poca district, United Carbon Co.-Ahaz Spencer at 500 feet; same company on S. H. Milam at 145 feet; on W. P. Moss farm, rigged up; W. O. Zeibold on Griffith and Dixon, fishing at 1,100 feet account broken jars.

In Malden district, Godfrey L. Cabot, Inc. No. 2 Nellie B. Tompkins, running casing at 4,521 feet; No. 3 at 2,050 feet; No. 8 William Tompkins heirs at 3,601 feet; No. 1 W. D. Lewis farm at 5,115 feet with top of Oriskany about 70 feet deeper; United Carbon Co. on J. Q. Dickinson at 3,600 feet; United Fuel Gas Co. No. 4,643 on George Creek Land & Mining Co. at 782 feet; No. 4,657 at 1,050 feet.

New Work

In Cabell County, Kentucky-West Virginia Gas Co. is moving in tools on the Julia McComas farm in McComas district. On the Guyandotte River, W. C. Kingery is rigging up on the C. & O. R. R. land.

In Calhoun County, Hope Construction & Refining Co. has made a location on the Allen Hardman farm in Sherman district and also on the J. S. Riggs farm in Lee district, and has

(Continued on Page 88)

North Louisiana, Arkansas

RODESSA'S YIELD MAY REACH 20,000 BARRELS TO THE ACRE

By MITCHELL TUCKER

SHREVEPORT, La., July 20.—Fifteen new locations featured the news at Rodessa this week, while only four completions were recorded. The deep lime wells at Smackover, Arkansas, continued to test, with disappointing salt water showings clouding the picture.

The Magnolia Petroleum Co. assumed control of the R. W. Norton properties at Rodessa, and their immediate drilling activity stimulated the staking of 10 new locations on the Cass County side of the field, eight of which are on the J. Collom Survey.

Rodessa Reserves

An estimate of the reserves at Rodessa, probably the most comprehensive ever made, was completed by engineers of one of the major operators there. An ultimate recovery of from 17,000 to 20,000 bbls. per acre was indicated by this study. Cores from wells in representative cross-sections of the oil producing portion of the field were checked in detail, dividing the formation thickness into the gas, gas-distillate, and crude oil sections, and after making necessary compensations, estimates were made from known porosities and assumed saturations. This indicated recovery was checked against the pressure declines, and rather close comparisons were made. This estimate, of course, applies only to that portion of the field where the wells are essentially oil wells, and would have to be modified in the high gas-oil ratio areas.

Original estimates of ultimate recovery at Rodessa ranged from 5,000 to 40,000 bbls. per acre. As of July 1, 1936, the field had produced a cumulative production of 10,098,330 bbls.

Three of the major operators at Rodessa have been conducting slow but methodical bottom-hole pressure surveys. It is reliably reported that static bottom-hole pressures of from 2,000 to 2,500 pounds are being observed. The pressures varied from well to well, with apparently no relation to structural position, productivity, or withdrawals. Most of the pressures taken in Cass County have been made by agents of the Texas Railway Commission from Kilgore, and it is understood that pressures in this section of the field are comparable to those taken on the Louisiana side.

Rodessa Hearing at Austin

Direct action on the matter of Rodessa conservation was again postponed at the Texas Railway Commission hearing at Austin on July 16, although it was planned that this field would be a major consideration at the statewide hearing.

Upon agreement by the operators and independent land and royalty holders, drilling will conform to a 20-acre spacing pattern until another hearing can be held at some point in East Texas within the next two weeks. Jefferson, Tex., has been suggested as the place for this hearing, and Louisiana officials have been asked to either accept the invitation to join here, or suggest another meeting place if Jefferson is not acceptable.

A representative of a major Rodessa operator stated that the delay in holding a hearing and adopting definite rules for the field is jeopardizing the entire conservation program, as pressures are dropping and an unfavorable drilling pattern is being developed.

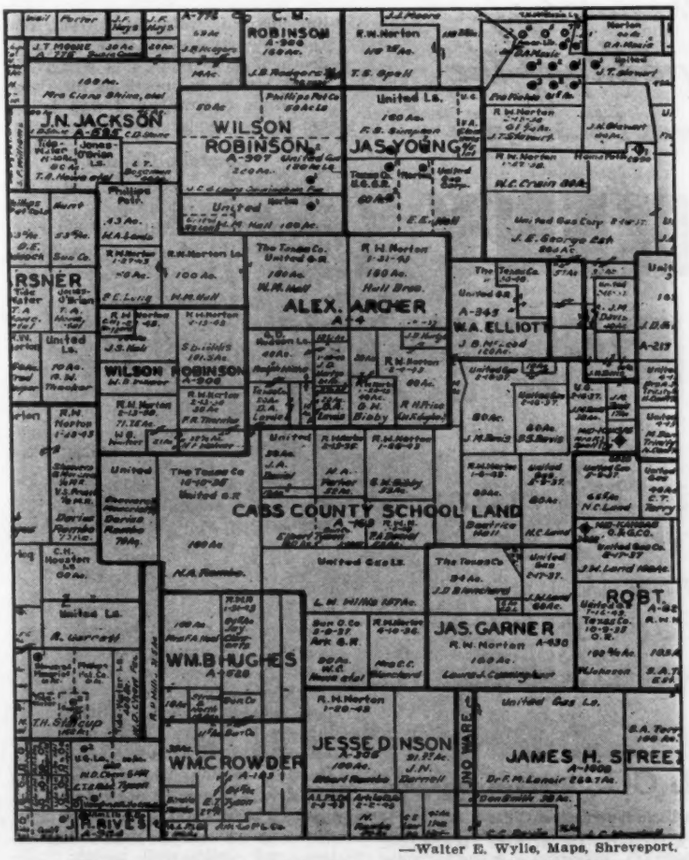
Chairman E. O. Thompson of the Texas Railway Commission said the short delay seemed advisable because Cass and Marion County landowners were not ready with technical data supporting a pattern closer than one well to 20 acres, and because Louisiana conservation officials were unable to attend the hearing.

Cass County Extension Wells

Marathon Oil Co. No. 1 R. P. Willis, in the S.F.&I.W. Survey 1,263, is being watched closely as a possible extension well to the southwest end of the Rodessa field. Young sand was penetrated at a depth of about 5,960 feet, and it was reported that very little saturation was evident. Preparations were made to run Schlumberger test when a fishing job developed.

Showers & Moncrief No. 1 Stalcup, on the James Davenport Survey, is waiting for cement to set at 6,006 feet. This well cored 30 feet of saturated sand in the Dees and Young zones, lending encouragement to operators in that area. The well is about 1 mile north of American Liberty Oil Co. No. 1 Rambo extension well, and has been running about 50 feet lower structurally. The Rambo well has become largely a gas well, but the indication of greater oil saturation further down the dip is important to the lease holders nearby.

United Production Co. No. 1-A Tyson, J. H. Rives Survey, on the adjoining tract to the Rambo extension well, appears to be slowly going to gas. Originally the well was completed for 16 bbls. of oil per day through a fourteen-sixteenths inch choke, but now is making only about 4 bbls. per day.



—Walter E. Wylie, Maps, Shreveport.

Western extension area of the Rodessa field in Cass County, Texas

Estimated Production

Estimated daily gross production all companies week ending July 17:

NORTH LOUISIANA

Bellevue	710
Caddo light	4,095
Caddo heavy	2,370
Converse	870
Cotton Valley	315
DeSoto and Red River	1,435
Elm Grove	390
Haynesville	3,570
Holly	130
Homer	2,600
Pleasant Hill	160
Rodessa	58,900
Sarepta-Carterville	515
Urania	2,825
Zwolle	1,135
Total	80,020

SOUTH ARKANSAS

Champagnolle	2,715
El Dorado	2,130
Lisbon	290
Miller County	930
Nevada	865
Smackover light	2,235
Smackover heavy	18,130
Stephens	590
Urbana	1,790
Total	29,675

Texas side of Rodessa field—6,100 bbls. dly.

Rodessa Completions

Arkansas-Louisiana Gas Co. completed No. 19 Rodessa Oil & Land Co., NE NE SE section 22-23-16, for an initial flow of 38 bbls. per hour through one-half inch tubing, saturation at 5,968 feet, total depth 5,996 feet; tubing pressure 350 pounds, casing pressure 290 pounds.

H. W. Snowden No. 1 Phillips, Lot 11, Block 36, Rodessa townsite, section 23-23-16, acidized with 3,000 gallons, flowed 4 bbls. per hour through three-sixteenths inch choke, with 5,000,000 feet gas; tubing pressure 1,475 pounds, casing pressure 1,500 pounds; total depth 5,996 feet. This well proved to be essentially a gas-distillate producer, as do most of the townsite wells.

United Gas Public Service Co. No. 8 M. L. Pitts, NE SW section 15-23-16, flowed 16 bbls. per hour initially through one-quarter inch tubing choke after acidizing with 1,500 gallons; tubing and casing pressure each 1,500 pounds; saturation 6,045-65 feet; total depth 6,085 feet.

United Gas No. 4 Miller, section 14-23-16, flowed 30 bbls. per hour through one-half inch tubing choke after acidizing with 2,000 gallons, from a total depth of 6,017 feet.

Bossier Parish

United Gas No. 1-D Skannall, section 22-17-12, Bossier Parish, drilled for a deep test of oil possibilities in the old Sligo gas field, proved disappointing this week when it showed salt water on drill stem test made at 5,315 feet. Operators plan to further test the well.

After blowing wild for several hours, Triangle Drilling Co. No. 1-E

Skannall, on the edge of the Sligo gas field in section 23-17-12, was brought under control by the use of heavy mud. The gas is from the gas sand found in this area at about 4,300 feet, and is estimated from 30,000,000 to 40,000,000-foot capacity. Six hundred feet of heavy drill pipe was blown through the top of the derrick and curled up on the ground when the well blew in out of control. Seven-inch casing will be set on top of the gas sand and the well completed at the present depth of 4,388 feet.

Considerable leasing continues in the vicinity of Township 21, Ranges 12 and 13, and it is reported that Burks White has agreed to make a deep test of the Glen Rose in this vicinity as partial consideration for some of the leases he has assembled.

Caddo Parish

Gulf Refining Co. staked location for their long-awaited test of the Cross Lake region near Shreveport. This will be known as No. 1 E. P. Hatcher, SW SE section 11-17-15. The test will explore all zones of the Middle Trinity to an approximate depth of 5,500 feet. This acreage has been thoroughly surveyed by geophysical instruments, and is regarded to be probably the most important test ever to be made of the Shreveport region.

Bienville Parish

Gulf Refining Co. has purchased the 25,000-acre block owned by Leon Russ of Dallas, centering in section 29-14-7, agreeing to complete a 6,000-foot hole before September 1, 1937. The Gulf company has other large holdings in the immediate area.

Morehouse Parish

Southeast of Mer Rouge, Henry Rondeau has taken over the J. B. Collins block and is preparing to move in for the drilling of a deep test in section 10-20-7e. Several companies are planning to assist in financing the test.

Grant Parish

Alexander and others found that their No. 1 Maxwell well in section 9-9-1e, Grant Parish, would pump only salt water from a depth of 1,538 feet, and it has been abandoned.

Taw Oil Co. abandoned location for No. 1 Bradford in section 16-9-1e, after setting surface casing at 60 feet.

Theo Davis and others are rigging up No. 1 Barrett in the NE cor. S half SW NE section 19-9-1e.

Richland Parish

Gulf Refining Co. is drilling at 1,259 feet in R. R. Rhymes No. 15, section 32-17-6e, as a deep test for oil on the flanks of the Richland gas field.

Sabine Parish

The Converse shallow pool is to receive another deep test as E. G. Cravath and others of Shreveport prepare for the drilling of No. 1 DeLaney in the NE cor. S half NW section 30-9-13.

Webster Parish

The territory's deepest test, Ohio Oil Co. No. 6 R. L. Holloway, section 23-21-10, is coring for a casing seat below 8,500 feet. Flush joint casing is on the ground.

Material is being moved in for the second test of the Sibley area. This is W. D. Ambrose No. 1 T. Crichton, section 36-18-9, a farm-out proposition from Phillips Petroleum Co.

ARKANSAS

Arkansas County

After rigging up, Arkansas Oil & Gas Co. No. 3 Fischer, section 6-6-4w, has been standing for three months, and last week the operators decided to abandon the location.

Calhoun County

T. R. Brown and others abandoned their deep test, No. 1 Calion Lumber Co., section 22-15-15, after encountering only salt water in the big lime (presumed to be the Permian) at a depth of 4,958 feet. This well is located 1 mile due north of the Snow Hill discovery well, and was drilled for further exploration of that area.

Loanoke County

Central Arkansas is to receive another test for oil as J. F. Russell prepares for the drilling of his J. T. Gunter in the SE cor. section 17-5n-10w, Loanoke County.

Miller County

Deep Rock Oil Co. No. 1 Williams, section 6-16-25, will be closely watched for the next few weeks as it drills ahead at 4,164 feet, after encountering the top of anhydrite just above this depth. It is planned to thoroughly explore all the Middle Trinity zones.

Ouachita County

Lion Oil Refining Co. drilled No. 1 Berg-Reynolds, section 28-15-15, Ouachita County, to 5,247 feet for a thorough test of the upper section of the big lime. Just above this depth the crew cored hard dense lime, with very little saturation. The hole was then plugged back to 5,041 feet, and 8-inch casing cemented at 4,864 feet. It is planned to complete the well at this depth.

Phillips Petroleum Co. No. 1 L. Harriss, section 28-15-15, is being tested at a depth of 4,807 feet. The 9⅝-inch casing was set at 4,789 feet. The plug was drilled and drill stem test made with wall packer, indicating 25,000,000 feet of gas with slight showing of oil and no salt water. It is now planned to run tubing and wash the well in.

John Pugh No. 1-A P. T. Hildebrand, section 28-15-15, made a 14-hour drill stem test at 4,934 feet, and well made 4,500 feet of salt water and 90 feet of oil. It was swabbed down to 3,500 feet and began flowing salt water with showings of oil.

Union County

J. E. Crosbie, Inc., completed No. 6 Sullivant, section 12-17-14, pumping 108 bbls. oil and 250 bbls. salt water per day, total depth 3,181 feet.

MISSISSIPPI

It is reported that Fred E. Coursen, independent Pennsylvania operator, has been actively assembling a block in southern Mississippi. He plans several tests to a depth of 3,200 feet on acreage acquired from the Sun company, while it is reported that the Texas, Magnolia, United, Humble, Gulf and other companies have contributed acreage in consideration for the tests. The block will total between 14,000 to 20,000 acres, and the first test is expected to be on Newman Lumber Co. lands in section 26-1n-9w.

A new location has been staked in Yalobusha County, Mississippi, by W. S. Biles and others for their No. 1 W. C. Bryant in section 21-24n-6e. This is upon an extensive block recently geologized.

EAST TEXAS (Border Counties)

Panola County

The feature of the week in this territory is the new location staked by Gulf Production Co. for their No. 1 Pierce & Chesbro (Werner Saw Mill) on the J. H. Shahan Survey, which is part of that company's 7,000-acre block.

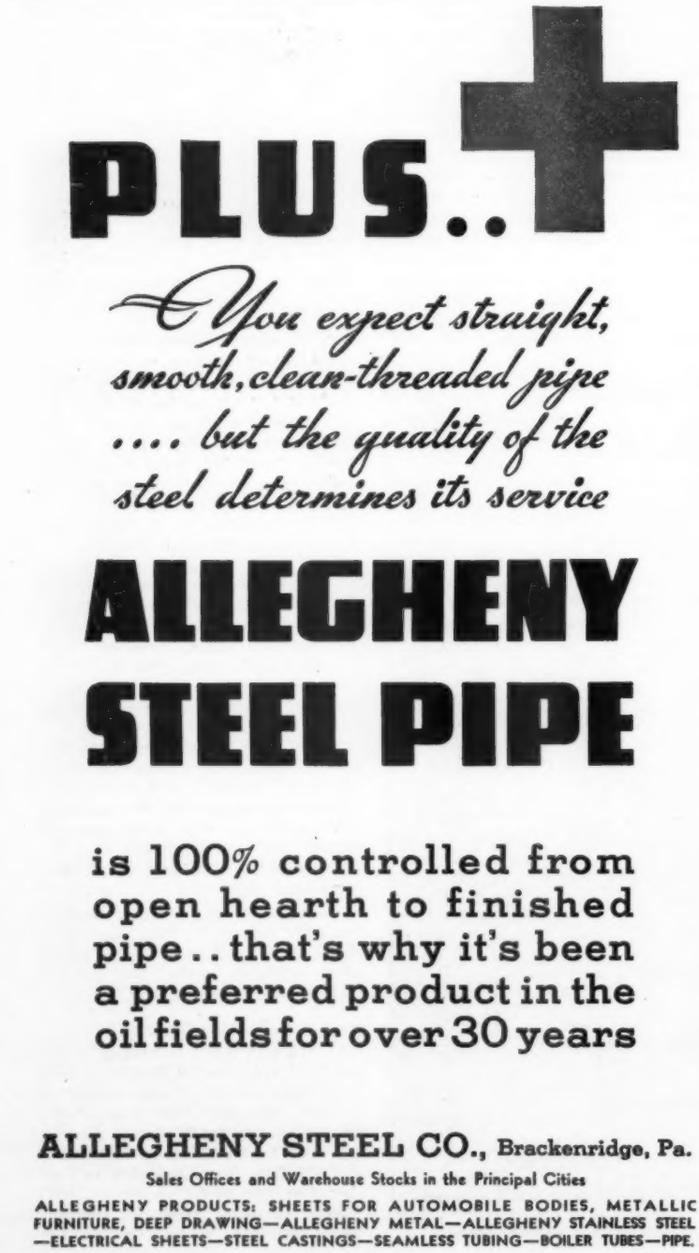
Near Beckwith, in the some county, Devonian Oil Co. is reported to have taken a block of about 4,500 acres.

Geophysical Activity

Geophysical exploration in the East Texas border counties continues at an increasing rate. A recent summary of this activity is as follows:

Bowie County: Humble continues to sponsor the unit around Darby Springs on the J. Duke, J. Moffett and E. Bush Surveys. Cass County: Shell has seismograph crew around Marietta. Harrison County: Sun company has a crew around Carmack, while Sinclair continues their work 8 miles northwest of Marshall. Southwest of Marshall, G. W. Savage of Houston has taken about 5,000 acres along the Sabine River. Shell Petroleum Co. is keeping crew busy about 5 miles west of Waskom, while Arkansas-Louisiana Gas Co. has returned their crew to survey the area surrounding the Waskom gas field. Marion County: Amerada Petroleum Co. crew is mapping southwest of Jefferson. Shelby County: Pure Oil Co. crew remains in the vicinity of Center, while the Sun Oil Co. crew has moved to the vicinity of the D. T. F. Yordt Survey.

R. Ogarrio, vice president in charge of production for the Texas Corporation, is expected back in this country within a few weeks. He is now in Europe visiting in London after touring Spain and other countries on the continent.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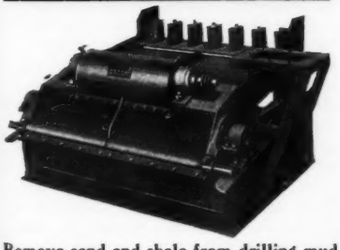

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Among Gulf Coast Drilling Contractors

Activities of Al Buchanan, San Antonio contractor, extend through several Southwest Texas and Gulf Coast counties. Five rigs are drilling for Plymouth Oil Co. in the Plymouth field, San Patricio County. In Duval County activity is divided between the Loma Vista, Loma Novia and Seven Sisters fields. In Loma Vista, No. 1-B Welder of Shell Petroleum Corp. is in oil sand and is showing for an important extension to the field. Loma Novia drilling is for Humble Oil & Refining Co., and Seven Sisters operations resulted in completion of a producer for Blanco Oil Co. In McMullen County, a crew is drilling in the Rhode field for Humble. Other tests include a wildcat being drilled in Refugio County for Benedum & Trees Oil Co., and a test in the new Heyser field of Calhoun County, which Buchanan is drilling for himself.

C & C Drilling Co. has reached the sand in Dick Schwab No. 2 Williams, located in the South Houston field, and is preparing to test. For Houston Oil Co. and Republic Production Co. in the Eureka Heights field, No. 1 Lackner is drilling below 5,100 feet.

Cron & Gracey have two rigs running at South Houston for Stanolind Oil & Gas Co.; one in the Manvel and one in the West Columbia field for the Texas Co., one at Barbers Hill for Sinclair Prairie Oil Co. and one at Placedo for Barnsdall Oil Co.

Edwards Drilling Co. has spudded No. 2 Maco Stewart in the Dickinson field for Kenben Oil Co. and is preparing to work over its No. 1 Farmer, recently completed for an oil well at the Pickett Ridge field.

Rutherford Drilling Co. marked up an east extension for the Van Vleck field by the completion of Skelly Oil Co. No. 1 Moore; completed No. 8-B Cobb and is preparing to make a squeeze-out cement job on No. 1 Langham, which has shown salt water in the 8,200-foot sand. Contract was received for No. 2 Metzler and a rig is being moved to the location.

Nicklos Drilling Co. is drilling below 6,919 feet on Continental Oil Co. No. 5-A Homeseekers in the Tepetate field and is rigging up for the same company's No. 2 Klump. Pan American Production Co. No. 2 Cormier, located at Port Barre, has been abandoned at 5,216 feet, and for the same company at the Sorrenton dome No. 5 United Land is coring oil sand below 4,300 feet.

Smith & McDannald completed No. 5 McIntyre at Louise for Pure Oil Co. and received contract for No. 3 Houston. Their No. 1 Lamb at South Houston is being completed and rigs are being moved to two locations which will be drilled for themselves. A wildcat in Zavalla County is being deepened to the Edwards lime for the Bay Oil Corp. and Tide Water Oil Co. No. 1 Brown, a wildcat in Orange County, has been abandoned below 7,600 feet.

Glenn H. McCarthy abandoned his No. 1 Langham at Amelia after testing salt water and is preparing to spud No. 1 Kilgore, located at the Cotton Lake prospect in Chambers County. In the meantime, two wells being drilled for Humble Oil & Refining Co. in Anahuac field have reached the sand and are scheduled to be completed during the week.

Noble Drilling Co. has shut down No. 1 Poole at Cedar Lake at 7,509 feet, after it blew out and flowed hot salt water. In Calcasieu Parish, No. 1 Britt is drilling below 8,300 feet and nearing the contract depth. Both wells are being drilled for Strake Oil Corp.

At Stanolind Oil & Gas Co. No. 3-A Pipkin & Davis, Big Hill, Jefferson County, Texas Gulf Coast. Left to right: R. E. Dansby, engineer in charge of drilling mud for Stanolind; D. J. Evans, driller for Harrison & Dillard, Inc., drilling contractors; R. W. Stuart, mud engineer for Stanolind; Stanley Pearson, tool pusher, Harrison & Dillard, Inc.; J. C. Chance, Stanolind district drilling and production superintendent.

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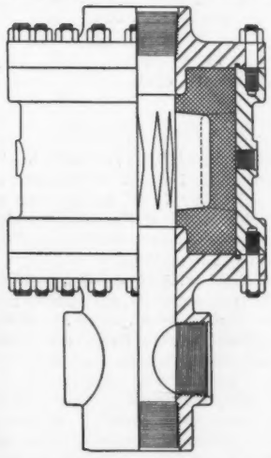

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Michigan Field Report

GLADWIN COUNTY TEST MAY DEVELOP NEW DUNDEE POOL

By
PAUL A. ELLIOTT

MUSKEGON, Mich., July 20.—Michigan operators were thrilled last week for the first time in 1936 with prospects of a new field indicated by a commercial showing in a Gladwin County wildcat.

Goll, Graves & Mechling, Inc., No. 1 Oard, SW SW SE section 25-28n-1w, a Buckeye Township wildcat located about eight miles east and north of production in the Beaverton Township, Gladwin County pool, swabbed 15 to 30 bbls. a day in the Dundee.

First show of gas and oil was encountered about 70 feet in the Dundee limestone topped at 3,496 feet. The well swabbed about 30 bbls. the first day and about 15 two succeeding days after oil rose 2,500 feet in the hole.

The well showed no increase after drilling 162 feet into the lime and was expected to be given a shot of acid this week to increase production possibilities.

The oil was reported similar to that found in Ogemaw County wells about 30 miles northeast of the new discovery, or of a black, heavy character. Dr. Virgil R. D. Kirkham, Saginaw geologist and independent producer, is interested in the test. He with Goll, Graves & Mechling, also of Saginaw, are said to hold leases on about 17,000 acres in the vicinity of the test. Sun Oil Co., Wiser Oil Co., McClanahan Oil Co., and J. V. Wicklund are other lease holders vitally interested in its success.

New Field Possibility

Recent successful extensions in the Beaverton field where 16 wells as of July 1 had produced an average of 1,157 bbls. daily during June added to the interesting possibility of a new field in Gladwin County.

The Oard well revealed a decided rise in structure to the north and east as Dundee was topped about 300 feet higher than in Beaverton wells. It rises another 1,000 feet over the distance northeast to Ogemaw. Beaverton wells must be drilled deeper than those in any other producing field in Michigan to get oil in the Dundee, as yet Michigan's leading producing horizon.

The new well immediately developed a heavy play in leases and royalty, for it was the most important indication of a new oil field yet discovered during 1936 in Michigan where independent refineries and wildcat operators have been eager to find a new supply to bolster production far below the market demands.

Another hopeful but not as important a find was revealed in W. J. Bernier No. 1 Fitzgerald, a wildcat located NW NW SE section 9-12n-9w, Deerfield Township, Mecosta County, A show of oil was encountered 63 feet in the upper Traverse topped at 2,987 feet. Drilling was continued, however, when the test failed to develop commercial production at nearly 3,100 feet. Operators announced they will continue to the Dundee.

Other Wildcat Tests

C. W. Teater No. 1 McCabe estate, NE SW SW section 26-20n-12w, Newkirk Township, Lake County, had been drilled 64 feet into the Dundee topped at 3,289 feet without success. It is located in west Michigan about 50 miles northeast of the Muskegon field.

The two Montcalm County wildcats about ready to drill into the Dundee were W. E. Vass No. 1 Bristol, SE SE NW section 23-10n-8w, near the Vickeryville well, and R. E. Gallagher No. 1 Bentley, SW SW NW section 33-9n-8w, in the same vicinity.

Jacob Bolema No. 1 Redwing Development Co., NW NW NW section 15-21n-16w, Manistee Township and County, near the city of Manistee, struck Dundee water 20 feet in the limestone topped at 1,765 feet. Drilling had been continued toward the Monroe to a depth of 1,905 feet without success.

Northern Development Co. No. 1 Fred Burke, SW SE NW section 26-17n-15w, Logan Township, Mason County, also struck water in the Dundee 133 feet in at 2,630 feet where it was shut down pending a probable decision to drill to the Sylvania. Dundee was topped at 2,497 feet.

Dragoon Development Co. No. 1 W. K. Young, SW NW NW section 15, same township, which with the Burke is located near two older tests which struck flows of about 1,000,000 feet of gas in the Sylvania several years ago, had reached a depth of 2,790 feet on the way to the Sylvania. Both are being drilled by Lentz & Miller, Muskegon contractors.

Sylvania Oil Co. No. 1 Campbell, NE SW SW section 10, same township, also was nearing the Dundee casing point drilling at more than 2,300 feet deep as the week closed.

J. H. Barton No. 1 Smith, SE NE NE section 29-10n,-10w, Nelson Township, Kent County wildcat, remained shut down at 3,201 feet awaiting a probable order to plug after failure in the Dundee.

Two other wildcat dusters expected to be abandoned were: Harley Williams No. 1 Smith, SE SW NE section 28-9n-2w, Washington Township, Gratiot County, which struck bottom water at 2,915 feet, or 22 feet in the Dundee, drilling being suspended at 2,922 feet and W. F. Malow No. 1 Ernest, SW SW NW section 27-8n-16e, Grant Township, St. Clair County, the southeast Michigan duster.

Two other Gratiot County wildcats, one in Emerson and the other in New Haven Township, were expected to reach the Dundee this week.

Trenton Oil Producing Co. No. 1 Stone, SE SE SE section 24-7s-6e, Summerfield Township, Monroe County, also was completing last week.

Midland County

Brehm and Hollman Oil Co. No. 1 James estate, NW SW NW section 20-15n-2w, Geneva Township, struck a light show of oil in the Dundee at 3,668 feet, about seven feet in the limestone, and was shut down pending a decision to treat with acid or deepen.

It is the first of two Geneva tests which failed to get Traverse production in commercial quantities and were being drilled to the Dundee. The other is Robert Bond and A. T. Wright No. 1 McClintic and others, NW NE NE section 29, same township, on the way to the Dundee.

Jasper Township

Pure Oil Co. completed two small Dundee producers in the Jasper Township, or Post pool. The No. 3 Alspaugh, C N SE NW section 2-13n-2w, which made 200 barrels at 3,434 feet and will be treated with acid and the No. 3 Reed, C S NW SE section 1, completed for 110 bbls. a day after acid treatment at a total depth of 3,440 feet.

Porter Township

Pure No. 2 Crandell, NW NW NW section 16-13n-1w, Porter Township, was plugging back from 3,447 feet, while the Upper Peninsula Oil & Gas Development Co. No. 1 Hodge, NE SW SW section 18, same township, was drilling in. Dibble Brothers No. 1 Lippert, SW SW NE section 7, Porter, was testing after acid treatment.

Crystal-Montcalm

Cryden Petroleum Corp. completed two tests on the Hustead lease in section 2-10n-5w, Crystal Township, Montcalm County, for another 300 bbls. initial. No. 4 Hustead, NW SE NW section 2, made 100 bbls. in 24 hours after topping the Dundee at 3,179 feet and drilling to a total of 3,187 feet. The No. 5 located SW NE NW section 2, flowed 200 bbls. natural as the largest recent completion in the field. Both probably will be treated with acid.

Her-Ka-Mon Oil & Gas Co.'s south extension test, No. 1 DeYoung, NE NE NW section 12, same township, flowed 17 bbls. in a few hours after acid treatment but quickly declined so was put on the pump.

Daily Crude Oil Co. No. 4 John Flint, NW SW SE section 35-11n-5w, in the Ferris Township section of the Crystal field, was being plugged back after drilling into water. Dundee was topped at 3,204 feet and oil was encountered one foot in. Water drowned out the well at 3,207.

Swanson Oil Co. No. 1 Flint, SE NW NW section 11, Crystal Township, second below water test under Duck Lake will be drilled into the Dundee this week as it was 3,025 feet deep last week.

Ogemaw County

Two new Dundee wells were completed in Ogemaw County last week making about 100 bbls. each. One was Kinwell Oil Co. No. 1 Harper, NE SE SE section 19-22n-2e, West Branch Township, producing at a total depth of 2,738 feet after acid and the other was Melling Oil & Gas Co. No. 8 State of Michigan, SE SW NW section 6-21n-3e, Mills Township, completed at 2,611 feet.

Melling Oil & Gas also started deepening No. 6 State from the Traverse to the Dundee after it had produced for several months in the upper formation.

Two other Ogemaw tests had drilled into the Dundee oil sands and were completing, the Sun Oil Co. No. 1 Department of Conservation, NE SW NE section 6-21n-2e Horton Township and McClanahan Oil Co. No. 3 Heintz, NW NE NW section 24-22n-1e, Ogemaw Township, in which drilling was completed at 2,681 feet. The latter had been treated with acid but not yet opened to test production.

New Locations

Three wildcat locations were included among nine new permits to drill issued by the state conservation department.

Of premier interest as the first recent oil test to be drilled in the Upper Peninsula was Charles Van Keuren's wildcat on the Hiawatha Sportmen's club lease, a large tract on the north shore of Lake Michigan. The test is located NE NE NW section 17-44n-9w, Garfield Township, Mackinac County, on the edge of a tract of virgin timber. It is expected to test five formations, few of which have been drilled in any of the shallow tests in the Lower Peninsula. They include the Niagara, Trenton, Superior, St. Peters and Clinton lime and sandstones.

The nearest active test is F. D. Barton and others No. 1 Kreetan Coal Co. well on Drummond Island, SE NW SW section 17-41n-7e, last reported 700 feet deep. Some years ago a test about 22 miles south and west of the Hiawatha location struck a show of black oil but was never developed.

Rig has been erected for a new Arenac County test. T. F. Caldwell, Inc., No. 1 J. C. Mutch, NE SE SE section 17-19n-4e, in Deep River Township where the Arenac Oil Co., Inc., has been shut down for some time on the No. 1 Griffin, SW SW NW section 1, same township, about two miles north of the new location.

Third wildcat location will be drilled by H. H. Brown as the No. 1 Paul Stepnitz on 58 acres of Private Claim 546, 2n-7w, Clinton Township,

(Continued on Page 86)

Texas and Louisiana Gulf

By
F. L. SINGLETON

NOME PROSPECT, JEFFERSON COUNTY, PROVES NEW POOL

HOUSTON, Tex., July 20.—A new field in Jefferson County was opened at the Nome prospect in the northwestern part of the County by the completion of Shell Petroleum Corp. No. 1 Carpenter, which flowed 251 bbls. of pipe line oil in 10 hours through a quarter-inch choke with tubing pressure 875 pounds and casing pressure 1,100 pounds. Production is from 53 feet of Marginulina sand, bottomed at a plugged-back depth of 6,058 feet. The well is in the M. E. Pivoto Survey, due east of several deep tests drilled by the Sun Oil Co.

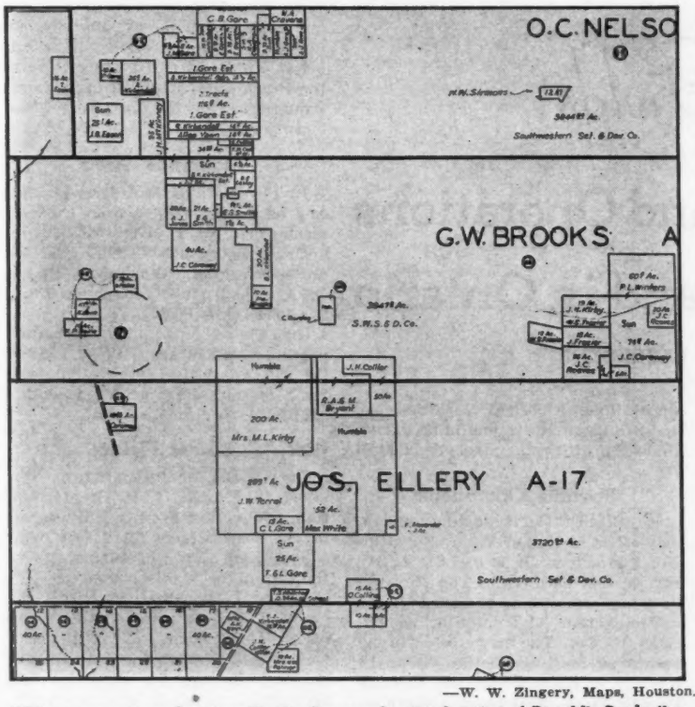
The Grapeland area, northern Houston County, was proven for distillate production the past week by the completion of Ellison & McBride No. 1 J. E. Bean, which flowed 23,500,000 feet of wet gas per day through a half-inch choke. It was tested later on a small choke and flowed 5 bbls. of distillate per hour with 8,000,000 feet of gas with casing pressure 2,375 pounds. The operators will flow the well for several days and unless it converts itself into an oil well, the hole will be deepened several feet.

No. 1 Bean made its appearance as a possible pool opener two weeks ago when it tested wet gas on a four-minute drill stem test made in the Woodbine sand from 6,028-38 feet and was given a production test at a depth of 6,040 feet, after 7-inch casing was cemented at 6,029 feet. The well is on a 5,000-acre block farmed out by Empire Gas & Fuel Co., and centers around the E. Stedman Survey, midway between the Long Lake field in Anderson County and the Buffalo area in Leon County, both of which are very similar types of structures.

Much attention was centered on the Silsbee Prospect, northeastern Hardin County, where Republic Production Co. and others No. 1 Brooks showed possibilities of production on a drill stem test made in the upper Cockfield section. The test was made after an electrical coring test showed broken sand showing gas from 6,735-6,840 feet with a maximum of 8 ohms. The drill stem test lasted six minutes and showed one thribble of mud, one thribble of oily mud with 410 pounds of working pressure. The operators started back into the hole to core but stuck the drill stem at 1,800 feet and are now fishing. This is the second well drilled on the prospect and it is located about 6,000 feet due east of a dry hole in the G. W. Brooks Survey.

The Bonnieview prospect, Refugio County, which has received considerable exploration in the past, was being watched over the week end due to favorable showings encountered by Mills Bennett Production Co. No. 1 Walzell, located in the Estenban Lopez Survey. Sand was cored at 5,996-6,002 feet and on an eight-minute drill stem test through a three-eighths-inch choke on top and bottom, it showed 7 fourbles of mud with a slight salty taste and a show of distillate. It is coring ahead in the Frio sand below 6,002 feet.

At the Lockridge prospect, Brazoria County, Gulf Oil Corp. No. 1 J. E. Fairfield is bottomed at 8,698 feet and 5-inch casing is being cemented on bottom preparatory to testing several possible oil sands that were indicated in an electrical coring test. The well showed for distillate production several months ago in a sand at 6,200 feet and encountered another one below 8,300 feet. Location is in the A. Robinson Survey. Harrison & Abercrombie No. 1 Armstrong Plantation fee, located north of production in the Old Ocean field, is apparently a low well since it is drilling in sandy shale below 9,118 feet with no shows of oil and gas being reported. Two producers are flowing from sand at 8,500 to 8,600 feet. Location is in the Polly and Chance Survey.



—W. W. Zingery, Maps, Houston.

Silsbee prospect, northeastern Hardin County, showing location of Republic Production Co. and others No. 1 Brooks which has shown production possibilities in the upper Cockfield sand at 6,840 feet

West Withers Area

Texas Co. was preparing to make another drill stem test on No. 2-B Pierce at the West Withers field, Wharton County, after a previous 10-minute test from 5,533-43 feet showed 10 feet of oil and mud with 110 pounds of pressure before the seat gave way. Late in the week the operators had cored to a depth of 5,553 feet and were preparing to retreat. This well is located about 1,865 feet north of the discovery well, completed a few weeks ago for a gas well.

Two completions were reported in the Dickinson field, Galveston County. Humble Oil & Refining Co. No. 4 E. E. Townes was completed through perforated liner at 8,022-27 feet and flowed 23 bbls. per hour through a quarter-inch choke with tubing pressure 1,200 pounds and casing pressure 1,500 pounds. Along the Dickinson Bayou, Stanolind Oil & Gas Co. No. 5 State was plugged back to 7,980 feet and flowed 248 bbls. per day through a 5/32-inch choke with tubing pressure 3,000 pounds and casing pressure 2,750 pounds. Piling is being driven for Stanolind No. 6 State, located northeast of Humble Oil & Refining Co. No. 1 Anderson.

Van Vleck Extended

The Van Vleck field, Matagorda County, was extended to the west by the completion of Skelly Oil Co. No. 1 Moore, which flowed 32 bbls. per hour through a quarter-inch choke from perforation made in the casing from 7,480-95 feet. Location is in the I.&G.N. Survey, section 10. No. 8-C Cobb was tested through perforated casing at 7,480-95 feet and flowed 33 bbls. per hour through a quarter-inch choke with tubing pressure 820 pounds and casing pressure 1,075 pounds. The company's No. 1 Langham, which was completed in the 8,200-foot sand, started making 30 per cent salt water and the well has been killed to make a squeeze-out cement job through the perforations.

Coastal Louisiana

The most interesting wildcat in Coastal Louisiana is Continental Oil Co. No. 1 Hebert, located in southern Vermillion Parish, which has established a record depth for the Gulf Coast. The hole is bottomed at a corrected depth of 10,956 feet and is waiting for cement to harden after 9,000 feet of 7-inch O.D. 30-pound casing was cemented at 10,947 feet. This is believed here to be the longest string of 7-inch casing ever run. The last string of surface casing was cemented at 1,881 feet and a total of 9,075 feet of open hole was drilled before casing was run. The hole is only 2 degrees off vertical and the operators are in hopes of drilling to 13,000 feet before testing. The hole is still in the Miocene section topped at 4,043 feet. A fairly good oil showing was encountered at 5,400 feet, 7,500-7,900 feet, and a possible gas sand was encountered at 7,660 feet. The well is being drilled on geophysical data which indicates a deeply-seated salt dome type of structure with the best possibilities of production being developed below 10,000 feet. Continental Oil Co. controls 70 per cent interest in the block with the balance owned by Gulf Oil Corp. Location is south of the town of Abbeville in section 20-12s-3e.

A third drill stem test made on Magnolia Petroleum Co. No. 1 Hebert, located a half mile east of the discovery well of Big Lake field, Cameron Parish, has proved disappointing and it is shut down waiting on orders. Sand was topped at 8,719 feet and on a 20-minute drill stem test from 8,709-30 feet, total depth, it showed 7,000 feet of salt water and mud with a slight scum of oil with a fair blow of gas. Location is in section 13-12s-9w.

Tested Salt Water

Shell Petroleum Corp. No. 1 Lacassine, located on the Haynes prospect, Jefferson Davis Parish, was tested at a plugged back depth of 8,975 feet, tested salt water and the hole has been plugged back to 8,664 feet where it will be tested through perforated casing from 8,632-50 feet. This is the fourth drill stem test to be made, all of which have showed salt water. On the South Jennings prospect, Stanolind Oil & Gas Co. No. 1 Calcasieu National in section 15-10-3w, is drilling in sand and

shale below 7,403 feet with no shows reported.

Bowles & Borsodi No. 1 Haas, located 2,500 feet southwest of the discovery well of the Cheneyville field in Rapides Parish, is coring in shale below 5,698 feet and should encounter the 5,700-foot Cockfield horizon within a few hours drilling time.

On the north side of the Roaneke field, Jefferson Davis Parish, Shell Petroleum Corp. No. 3 Carter, located in section 1-9s-4w, was completed at a depth of 8,659 feet and flowed 990 bbls. per day through various chokes with tubing pressure 1,350 pounds and casing pressure 1,900 pounds. Humble Oil & Refining Co. No. 4-B Devilbiss in section 11, is drilling shale in a sidetracked hole below 7,340 feet.

Union Sulphur Co. has made location for a wildcat test to be drilled on the Wurmnest lease, south of Lake Charles in Calcasieu Parish. The well is to be drilled in SE quarter of section 9-11s-8w, on a 480-acre tract farmed out to the company by Shell Petroleum Corp., which has a block of approximately 4,000 acres in the area. Shell Petroleum Corp. is reported to have given $15,000 bottom hole money for the drilling of an 8,000-foot test. This will be the third test to be drilled by Union Sulphur Co. in this area.

While wildcatting in Coastal Louisiana is more or less at a stand still, waiting on the outcome of several wells now drilling, there has been no letup in geophysical work and several large blocks are reported to have been taken within the past few weeks. In southern Cameron Parish, John B. Daile has assembled a block of 3,300 acres centering around Township 14, Range 7w. This block is approximately 7 miles northeast of the Creole, where Humble Oil & Refining Co. has a block of approximately 6,500 acres.

West of the town of Mamou, in Evangeline Parish, McSpadden & Co. are reported to have assembled a large block centering around section 9-5s-1w, on the strength of torsion balance and refraction seismograph work. Centering around the town of Broussard in Lafayette Parish, Stanolind Oil & Gas Co. has completed a block after working the area with geophysical instruments.

Three miles northeast of the town of Elton, centering in northern Jefferson Davis and southern Allen Parishes, Stanolind Oil & Gas Co. has completed another block which centers around section 23-6s-3w.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, July 18.—On the west flank of the South Turner Valley structure, Turner Valley Royalties No. 1, LSD 13, section 28-18-2w5, has finished running 3-inch tubing, with early runs indicating some increase in production. The last official test before the tubing was run showed 873.4 bbls. in 24 hours. This was slightly under 45 gravity, bringing it within the $1.55 price range. Two 2,000-bbl. tanks have been erected at the well site to handle surplus production.

About 1,500 feet farther south, B. & B. Co. No. 1, LSD 12, same section, is working on cellar. The company is headed by R. A. Brown, Jr.

A mile directly south of Turner Valley No. 1 producer, Apex Royalties No. 1 has been spotted in LSD 13, section 21-18-2w5. Location is in the LSD immediately west of Sovereign Royalties No. 1, which has an interest in the new test. In the same section, Sovereign Royalties No. 1, LSD 14, is deepening from 2,535 feet.

In section 28-18-2w5, Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, has cleaned out to 5,550 feet and is drilling up a lost bailer. Farther north in the same section, British Dominion Oil & Development Corp. No. 4, LSD 6, is deepening in a lighter and more porous lime below 6,410 feet while taking naphtha recovery about 85 bbls. a day from the upper lime. Richfield Royalties' No. 1, LSD 12, same section, is preparing to deepen with rotary tools from 4,010 feet.

Royalite Operations

Royalite Oil Co. is starting a northerly offset to Turner Valley Royalties No. 1 producer. It is in LSD 4, SW cor. section 33-18-2w5. The Royalite company some time ago took over the entire section 33 from Sterling Pacific Oil Co. The new test will be known as Sterling Pacific No. 4. In NW cor. of the same section, Sterling Pacific No. 3, also being drilled by the Royalite company, is in the upper Blairmore formation below 3,519 feet, after getting the grit bed marker at 3,240 feet.

South Turner Valley

In SE cor. section 21-18-2w5, Highwood-Sarcee Oils No. 2, LSD 1, is more than 175 feet in the Madison, below 5,775 feet depth, drilling in alternate layers of hard and soft limestone. Location is the farthest south in the field, and a half mile south of the nearest producer.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is below 5,650 feet.

On the Kootenay dome west of Calgary, Roxana Petroleum No. 1, section 8-24-7w5, has carried 21½-inch casing to 190 feet, and owing to caving will continue with 18-inch hole. Very little surface water was encountered. On the Birch Ridge, Elbow Oils' No. 1, LSD 11, section 35-22-5w5, has laid a mile of water line to the Elbow River. It is deepening from 4,375 feet. On the Moose dome, Moose Oils No. 2, LSD 8, section 29-22-6w5, is deepening from 252 feet after cementing for water shutoff.

West of the North Turner Valley field, Shore Line Royalties, Ltd., is preparing to resume work on Phillips Royalties No. 1, LSD 16, section 16-20-3w5, shut down for several months at 2,370 feet.

On the Highwood-Sinclair structure south of Turner Valley, Maple Leaf Royalties No. 1 Banner, LSD 6, section 34-17-3w5, is running casing to bottom at 2,597 feet. On the Pekisko structure, Pekisko Hills Co. No. 1, LSD 6, section 6-17-2w5, is in a soft lime formation below 3,787 feet. It originally got the top of the Madison lime at 1,071 feet and reeentered the lime after a recurrence of the Fernie shales at 1,308 feet, so that it has been drilling continuously for nearly 2,500 feet in lime formation. Gas has been met in several lime horizons with an aggregate around 4,000,000 feet a day, and there have been a few small oil showings.

On the Watson structure, north and west of Lundbreck, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, is below 4,808 feet and getting close to the Home sand, after getting a fairly strong gas flow in the lower Blairmore formation.

Aldersyde Area

In the High River-Aldersyde area, east of Turner Valley, Arca Development Corp. No. 1, NW section 24-18-1w5, is below 3,948 feet. Farther north and east, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is below 6,762 feet.

On the New Valley structure, northeast of Turner Valley, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, is resuming after cementing against caving at 5,200 feet.

Border Fields

On the Del Bonita structure, Terminal Oil Co. No. 1, H. Orcutt location, NE section 18-1-21w4, is preparing to deepen from 5,112 feet after getting good shows of oil and gas in the top of the Madison lime.

In the Lethbridge area, from the Coaldale-Judson area southwest to the St. Mary River, Carter Oil Co. of Denver has completed a series of geophysical surveys for Imperial Oil, Ltd.

South of Foremost, Alberta, and north of Whitlash, Mont., Jack Reynolds and associates have located on the international boundary and will test for oil in the Cut Bank sand, with chances of gas in the upper sand. The Reynolds group hold leases on 15,000 acres on the Dawson terrace.

On the Comrey structure in southeastern Alberta, McDougall-McLeod Oil Co. No. 1, section 9-1-5w4, is deepening after cementing for water shutoff in the Madison limestone at 3,800 feet. It got the Madison at 3,540 feet.

On the Montana side, Makalu Oils, Ltd., of Calgary has taken over the Herriman-Beaupre lease and unfinished well in SW quarter section 5-35-2w and will complete the test as Makalu-Beaupre No. 1. Contract has been let to Big West Oil Co. which has started drilling. The location is a little north of Sunburst-Beaupre's producer, completed in 1923. Directors of the Makalu company include Herbert Greenfield, president, and R. G. Smith of Calgary; F. Carlyle Rubbra, Frank R. Henry and Charles Hamilton of Lethbridge.

Oyen Gas Prospect

Canadian Western Natural Gas, Light, Heat & Power Co. of Calgary has started geophysical explorations in the Oyen district of eastern Alberta, under a prospecting permit covering some 64,000 acres in Townships 25, 26 and 27, Range 4w4. The Canadian Western company is planning to test the area for gas.

Wainwright Field

In the Wainwright field, east central Alberta, arrangements have been made by E. B. Taylor and associates of Vancouver, British Columbia, to deepen Montreal-Alberta Oil Co. No. 1, LSD 2, section 15-45-7w4, from 3,390 feet. The test, resumed this spring, got shows of high-grade crude after drilling about 1,000 feet in the limestone. The Taylor group expect to get commercial production around 4,000 feet but are planning to drill a maximum of 6,000 feet if necessary.

Saskatchewan Operations

In the Lloydminster field, western Saskatchewan, Triangle Oil & Gas Co., headed by C. H. Withers, is preparing to drill a test for gas.

Perry L. Withers of the Great West Refining Co. of Yorkton, Saskatchewan, has taken over some acreage in the Pi Wei Hills structure and will drill this summer.

Drilling in Ontario

In Chatham Township, Kent County, Ontario, T. Ogletree No. 1 wildcat, SW Lot 13, Concession 5, has a small flow of gas and is deepening below 1,600 feet. Farther north and west, Union Gas Co. No. 4, Lot 6, Concession 13, Chatham Township, is below 600 feet.

In the Dawn field, Lambton County, Union Gas Co. No. 80, SE quarter Lot 25, Concession 11, Dawn Township, drilled into water at 1,840 feet and was plugged back to shoot a small gas sand at 1,565 to 1,570 feet. A shot of 150 pounds of dynamite increased the flow from 58,700 to 82,700 feet a day. Union No. 81, Lot 23, Concession 1, is below 1,940 feet. Petroleum Products Syndicate No. 3, Weese farm, Lot 22, Concession 3, is below 1,250 feet.

In the Brownsville field, Oxford County, Armand Smith No. 1, Lot 22, Concession 12, Dereham Township, 900 feet east of Treleaven No. 1 gasser, failed to get any production at 910 feet but got a small flow, about 20,000 feet a day, at 930 feet. It is being deepened to test the Clinton sand. Aloka Oil & Gas Co. No. 4, Lot 23, Concession 12, has casing trouble at around 800 feet. Archie Treleaven No. 2, Lot 23, Concession 11, is below 400 feet.

Alex Rogers & Co. of Tillsonburg are starting a test for gas on the Travis farm, NE Lot 2, Concession 2, Middleton Township, Norfolk County.

E. P. Rowe of Toronto is reported preparing for a test in Norfolk County about 3 miles north of Simcoe. The Dominion Natural Gas Co. of Buffalo is preparing to drill on the Lake Erie shore in Norfolk near Turkey Point.

Kansas Developments

NEW PRODUCERS GET BIG PAY IN BEMIS, HAUSCHILD AREAS

By
DAL DALRYMPLE

Hot weather and a scarcity of water has slowed down operations in numerous Kansas oil areas, but has not affected the wildcat play in the central and western counties. Several pool extensioners or discovery wells were listed among completions and near completions of the past week.

A new pool is being opened in Barton County at Rose-Spring Drilling Co. and others No. 1 Rick, SW cor. section 1-19-11w, on the eastern side of the county between the Straub, Eberhardt and Lanterman areas. It swabbed 10 bbls. of oil an hour for eight hours from Siliceous lime, topped at 3,316 feet. The hole was bottomed at 3,354 feet. Operators were setting tubing and preparing to acidize.

Another new pool apparently is being opened in Russell County at Lario Oil & Gas Co. and others No. 1 Steinert, NW NW SW section 21-15-15w, about 17 miles southwest of Russell in Russell County. It topped lime at 3,026 feet, drilled to 3,071 feet and bailed at the rate of 6 bbls. an hour. Preparations were being made for a production test. The new area is about 2 miles southwest of the Donovan pool and 4 miles northwest of the Boxberger pool.

Roy Ramsey and others No. 1 Gregory, SW SW SE section 25-16-9w, had a showing of oil after topping the Simpson formation at 3,284 feet and drilling to 3,285 feet. This wildcat is southwest of Ellsworth in Ellsworth County. Empire Oil & Refining Co. No. 1 Cunningham, SE cor. section 26-18-1w, wildcat 6 miles northeast of production in the Ritz-Canton field of McPherson County, flowed 931 bbls. in 24 hours after acidizing at total depth of 2,832½ feet. The Graber pool of southeastern McPherson County was extended 1 mile north at Dickey Oil Co. and others No. 1 Goering, SE cor. section 17-21-1w. It topped Hunton lime at 3,300 feet, had pay at 3,312 feet and was bottomed at 3,322 feet. It flowed 55 bbls. of oil naturally in the first two hours, and then pumped at the rate of 11 bbls. an hour. It was acidized but had not been tested after acidizing. The Bemis pool of Ellis County was extended two locations south at Phillips Petroleum Co. No. 1 Bemis, NE SE NE section 21-11-17w, which pumped 2,841 bbls. naturally in 24 hours from Siliceous lime topped at 3,368 feet. Best pay was had at 3,376-81 feet, total depth, 3,382 feet. It is three locations south of the discovery well in the Bemis pool and is the largest producer in the pool. The Hauschild pool of southern Rice County, rapidly increasing in importance, has another big producer at McPherson Drilling Co. and Derby Oil Co. No. 1 Yaple, SW SE SE section 10-21-7w, which flowed 5,186 bbls. of oil on test and extended production two locations east.

The federal Bureau of Mines has recommended a daily average production for Kansas in August of 166,500 bbls. The bureau's estimate for July was 164,200 bbls., but the Corporation Commission set the allowable at 151,629 bbls.

Russell County

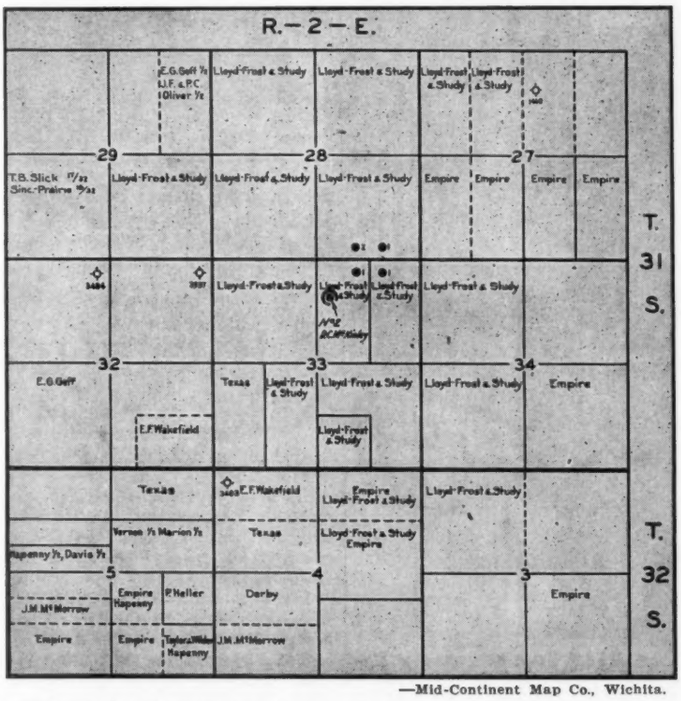
Seven new producing wells were completed in the Russell County pools. Central Petroleum Co. No. 5 Witt, NE SE SE section 3-14s-15w, in the Gorham area, made potential of 1,990 bbls. of oil. It topped anhydrite at 905 feet; Oswald 3,035 feet; Gorham sand 3,280 feet, and had pay at 3,283-87 feet, total depth. Hartman & Blair No. 3 Sullivan, NW NE SE section 2-14-15w, had Gorham sand at 3,316-21 feet, pumped 100 bbls. in seven hours and made potential of 250 bbls. It was deepened to 3,324 feet and made new potential of 453 bbls., cutting 1.5 per cent water.

Empire Oil & Refining Co. No. 1 Mai "B," SE SE SW section 28-13-14w, topped Oswald lime at 3,022 feet; LaMotte sand 3,299 feet; total depth 3,343 feet. It made potential of 243 bbls. of oil, with 160 bbls. of water. Same operators No. 1 Peter Boxberger, SW SW NW section 32-13-14w, was acidized and made potential of 446 bbls. of oil. Top of anhydrite was 905 feet; Oswald 3,032 feet; Siliceous 3,303 feet; total depth 3,312 feet.

Stanolind Oil & Gas Co. No. 1 Roesner, SE cor. section 9-15-13w, topped Oswald lime at 3,041 feet; Siliceous 3,315 feet; had pay at 3,327-29 feet, with an increase in oil at 3,336-38 feet; total depth 3,340 feet. It was acidized and made potential of 500 bbls. of oil, with 270 bbls. of water. Southern Oil Co. No. 2 Sellens, SE SW SW section 29-15-13w, topped Siliceous lime at 3,302 feet; total depth 3,306 feet. It made potential of 1,506 bbls. of oil in 24 hours, down 2½ hours, after acidizing with 4,000 gallons. Top of Oswald lime 3,054 feet. W. I. Southern, Inc., No. 3 Sellens, NW SW SW section 29-15-13w, topped Oswald lime at 3,051 feet; Siliceous 3,300 feet; total depth 3,304 feet. It was acidized with 4,000 gallons and made potential of 955 bbls. of oil.

New work in Russell County: Hartman & Blair No. 4 Sullivan, SW NE SE section 2-14-15w, location; Corralena Oil Co. No. 1 L. A. Sellens, NW cor. section 17-15-13w, wildcat, rotary rig.

Texas Co. No. 2 Ginther, NE SE NW section 19-12-15w, topped Oswald lime at 2,963 feet; total depth 3,027 feet, and after acidizing with 1,000 gallons it pumped 180 bbls. of oil in 12 hours, but was not completed. Bridgeport Machine Co. No. 1 Mills, SW NW SE section 33-13-15w, topped Gorham sand at 3,290 feet, and it pumped 900 bbls. of oil and 300 bbls. of water in 20 hours. Empire Oil & Refining Co. No. 1 Adam Ebel, SW cor. section 24-14-14w, topped Granite wash at 3,180 feet; Granite 3,265 feet; total depth 3,285 feet. It swabbed 90 bbls. of oil in six hours. Smoky Hill Oil Corp. No. 6 Miller, SW SE SW section 30-14-13w, total depth 2,946 feet, swabbed at the rate of 5 bbls. of oil an hour, was acidized with 8,000 gallons and was waiting.



—Mid-Continent Map Co., Wichita.

Weathered pool of Cowley County was extended to the southwest by its fifth producer at Lloyd, Frost & Study No. 2 McKinley, SW NW NE sec. 33-31-3

Production

Estimated daily average production in Kansas for the week ending July 18 and for the preceding week is as follows:

	Barrels	
	July 18	July 11
Oxford City	3,950	3,750
Burrton	13,400	13,400
Ritz-Canton	6,200	6,075
Hollow-Nikkel	3,850	3,875
Voshell	2,900	3,000
Ellsworth County:		
Lorraine-So. Lorraine	7,860	3,956
Other pools	1,830	1,379
Rice-Barton Counties:		
Chase	9,809	9,075
Raymond	3,490	2,550
Silica	12,380	9,250
Keesling	2,905	1,580
Miscellaneous Rice	6,113	6,011
Miscellaneous Barton	3,227	2,939
Russell County:		
Fairport	2,810	2,520
Gorham	3,500	3,445
Russell	3,150	3,005
Sullivan	2,980	2,545
Other pools	8,012	6,361
Sedgwick County:		
Valley Center	1,320	1,330
Greenwich	1,680	1,300
Robbins	1,705	1,520
Eastborough	820	804
Other pools	427	384
Ellis County	2,430	1,929
Kingman County	685	724
Stafford County	2,399	1,673
Greenwood County	10,300	10,300
Butler County	18,210	18,000
Other fields	23,008	22,095
Total Kansas	161,250	144,775

Rice County

Six new producers, including a wildcat discovery well, were completed in Rice County. R. W. Day No. 1 Mason, NW NE NE section 28-21-7w, wildcat east of Sterling, made potential of 135 bbls. of oil and was completed at 3,431 feet, total depth. Top of Chat, the producing formation, was 3,388 feet.

Stanolind Oil & Gas Co. No. 1 Fanning, NW SW NW section 33-19-10w, topped Siliceous lime at 3,278 feet; had pay at 3,289-92 feet and was bottomed at 3,293 feet. It swabbed 159 bbls. in three hours, was acidized and pumped and flowed 2,082 bbls. in 24 hours. Continental Oil Co. and others No. 3 Community Kimple, NE SE NW section 25-18-8w, in the Geneseo district, topped Siliceous lime at 3,147 feet and was bottomed at 3,195 feet. It was acidized with 4,000 gallons and made potential of 1,058 bbls.; reacidized with 1,000 gallons, it made potential of 1,548 bbls. Same operators No. 3 Community S. Ainsworth, NW SE NE sec-

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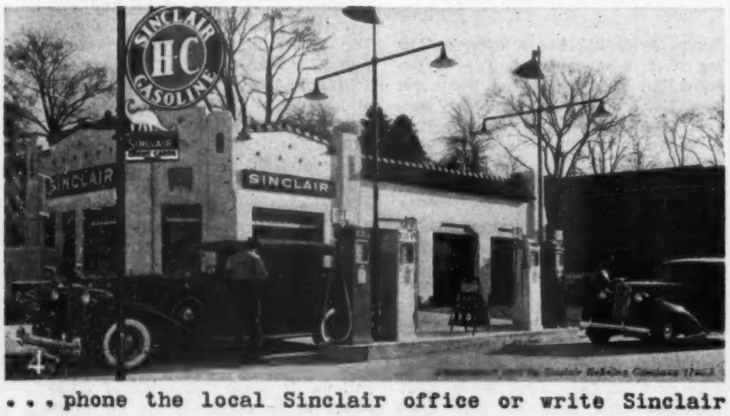


. . . phone the local Sinclair office or write Sinclair Refining Company (Inc.), 630 Fifth Ave., New York, N. Y.

tion 25-18s-8w, made potential of 1,823 bbls. after acidizing with 4,000 gallons. Top of Siliceous lime was 3,219 feet; total depth 3,160 feet. Empire Oil & Refining Co. No. 3 Janssen, NW NE NW section 3-18-8w, had sand at 3,202-05 feet; Siliceous lime 3,234 feet; total depth 3,260 feet. It was acidized and made potential of 435 bbls. of oil, with 25 bbls. of water. Gulf Oil Corp. No. 3 E. Malone, SW NW NE section 18-20-9w, in the Chase pool, topped Siliceous lime at 3,310 feet; and at 3,325 feet it pumped 186 bbls. of oil in 24 hours. Water intruded at 3,331 feet, total depth, and it was plugged back to 3,330 feet and pumped 319 bbls., completed.

Stanolind Oil & Gas Co. No. 5 Mitchell, NE NW SW section 32-19-10w, in the Silica area, an old well, was plugged back from 3,344 feet to 3,338½ feet, acidized and made potential of 819 bbls. of oil, down 2½ hours, recompleted.

New work in Rice County was as follows: Continental Oil Co. No. 1 Meyer, NW NW SW section 30-18-7w, cellar; Continental Oil Co. and others No. 4 S. Ainsworth, SW SE NE section 25-18-8w, cellar; H. V. Elwell and others No. 3 Brunkaw, SE SE NW section 32-19-9w, location; Empire Oil & Refining Co. No. 1 Jones, NW NW NE section 17-20-9w, building rotary rig; Derby Oil Co. No. 1 Hauschild, SW cor. section 11-21-7w, location.

C. E. Skiles and others No. 2 Edwards, SW NW NE section 3-18-8w, topped Simpson zone at 3,223 feet; total depth 3,278 feet, and pumped at the rate of 12 bbls. of oil an hour for 12 hours. Magnolia Petroleum Co. No. 1 Sharp, NW SW NW section 8-20-9w, topped Siliceous lime at 3,257 feet; total depth 3,281 feet. It was estimated good for 15 bbls. of oil daily, and was acidized with 1,000 gallons. McPherson Drilling Co. and others No. 1 Yaple, SW SE SE section 10-21-7w, topped Chat at 3,364 feet and had a hole full of oil at 3,380 feet, total depth.

Barton County

Gulf Oil Corp. No. 2 Zahorsky, NW NW SE section 14-20-11w, in the Silica area, Barton County, made potential of 1,452 bbls. of oil after acidizing and was completed. Before acid treatment, it made potential of 938 bbls. Top of Siliceous lime was 3,279 feet; total depth 3,299 feet. Magnolia Petroleum Co. No. 6 Meda Steckel, NE SE NW section 1-20-11w, topped Siliceous lime at 3,287 feet; total depth 3,305 feet. It was acidized with 1,000 gallons and made potential of 150 bbls. It then was shot two times and acidized and made new potential of 241 bbls. Indian Territory Illuminating Oil Co. No. 1 Burchart, SE SE NW section 14-20-11w, topped Siliceous lime at 3,323 feet; drilled to 3,355 feet, total depth; water intruded and it was plugged back to 3,326 feet, failed to get results by shooting and was dry and abandoned.

Aylward and others No. 1 Wissman, NW cor. section 31-18-15w, in the Albert pool, made potential of 113 bbls. of oil after two shots and was completed at 3,598 feet, total depth. Top of anhydrite was 976 feet; Kansas City 3,265 feet; sand 3,562 feet. Davison and others No. 1 Birzer, SW SE SW section 22-17-12w, wildcat, was dry and abandoned at 3,430 feet, total depth. Top of anhydrite was 760 feet; Topeka 2,770 feet; Kansas City 3,040 feet. Earl Wakefield and T. C. Johnson No. 1 Bumm, SW SW NE section 22-19-12w, wildcat, had a hole full of water at 3,550 feet, total depth, and was dry and abandoned. It topped anhydrite at 665 feet; Kansas City 3,155 feet; Congolmerate 3,421 feet; Siliceous lime 3,463 feet.

The following new activity in Barton County was reported: Texas Co. No. 3 Bloomer, SW NW NE section 36-17-11w, moving in material; Yarnell & Carlson and others No. 2 Bloomer, SE NE NW section 36-17-11w, cellar; Mid-Continent Petroleum Corp. No. 8 Matzek, SW NW SE section 25-19-11w, rigging up rotary.

Ellis County

The only well completed in Ellis County was Margay Oil Co. No. 5 Bemis "A," SW SW SE section 16-11-17w, in the Bemis pool. It topped anhydrite at 1,041 feet; Siliceous lime 3,341 feet; had pay at 3,357-62 feet, total depth, and made potential of 664 bbls. of oil.

New Ellis County operations: Margay Oil Co. No. 2 Bemis "B," NW SW SW section 15-11-17w, rigging up; Murphy Oil Co. No. 1 Wiesner, SE SE SW section 12-14-19w, wildcat location.

Reno County

Largest of two Reno County completions was Darby Oil Corp. and others No. 1 Beltz, SE SE SW section 4-26-4w, in the Hilger district. It topped Chat at 3,659 feet and had Viola lime, the producing formation, at 4,102-07 feet, total depth. It was acidized with 1,000 gallons, pumped and flowed 1,309 bbls. in 23 hours and made potential of 1,604 bbls.

Marathon Oil Co. No. 3 Priddle, NE SE SE section 17-24-4w, in the Burrton area, made potential of 709 bbls. of oil, with 6,000,000 feet of gas, after acidizing and was completed at 3,381 feet, total depth. It flowed 406 bbls. of oil in 24 hours before acidizing. Top of Chat was 3,313 feet.

Two new tests were reported in Reno County. Olson Drilling Co. and Shell Petroleum Corp. No. 8 Goering "A," C N half N half SW section 26-23-4w, was a location. S. J. Houston and others No. 2 Mount, SW NW NE section 20-24-4w, was moving in material.

McPherson County

Four producers were completed in McPherson County. Marathon Oil Co. No. 2 Decker, NW SE SE section 20-21-1w, in the Graber area, pumped and flowed 1,144 bbls. in 24 hours before acidizing, and made potential of 2,087 bbls. after acidizing. Top of Hunton lime was 3,290 feet; total depth 3,310 feet. Continental Oil Co. and others No. 3 C. C. Graber, NE SE NW section 32-21-1w, topped Hunton lime at 3,294 feet; total depth 3,320 feet. It was acidized with 4,000 gallons and made potential of 1,221 bbls. of oil. Same operators No. 1 Hetzke "A," SE SW SE section 20-21-1w, was acidized with 4,000 gallons and made potential of 1,645 bbls. of oil. Top of Chat was 2,892 feet; Hunton lime 3,280 feet; total depth 3,310 feet.

Marathon Oil Co. No. 3 Whitwright, C N half S half SW section 30-19-1w, in the Ritz-Canton field, topped Chat at 2,923 feet; total depth 2,977 feet. It pumped 118 bbls. in 24 hours; was acidized and made potential of 258 bbls., completed.

New work in McPherson County

follows: Slick-Pryor & Lockhart and others No. 5 Stucky, NE SW SW section 27-20-3w, drilling at 2,750 feet; Marathon Oil Co. No. 4 Decker, SE NW SE section 20-21-1w, location.

Ellsworth County

Carter Oil Co. and others No. 1 Mollhagen, C N half N half NW section 35-17-9w, in Ellsworth County, pumped 240 bbls. of oil in 14 hours before acidizing and made potential of 1,109 bbls. after acidizing. It topped Siliceous lime at 3,173 feet; total depth 3,182 feet, completed. Smith & Ash and others No. 1 Wilkens "B," NW SW SW section 18-17-9w, topped Kansas City lime at 2,937 feet; Conglomerate 3,245 feet; Siliceous lime 3,265 feet; total depth 3,288 feet, completed. It had pay at 3,272-75 feet, and made potential of 73 bbls. of oil, with 40 bbls. of water.

One new test was reported in Ellsworth County. Gulf Oil Corp. No. 1 Massman, NW NW SW section 18-17-10w, was building rotary rig.

Stafford County

Empire Oil & Refining Co. No. 1 Sifers, NE NE SW section 3-21-11w, in Stafford County, was completed at 3,343 feet, total depth. It swabbed 340 bbls. of oil in 24 hours; then was acidized and made potential of 533 bbls. Top of Kansas City was 3,071 feet; Conglomerate 3,322 feet; Siliceous lime 3,324 feet.

Pratt County

Skelly Oil Co. and others No. 3 Maxedon, C N half S half NE section 25-27-11w, in the Cunningham pool, was the only Pratt County completion. It topped Kansas City lime at 3,414 feet; Viola 3,975 feet; Simpson 4,066 feet; Siliceous 4,162½ feet; total depth 4,200 feet. It flowed 90 bbls. of fluid, cutting 35 per cent water, and produced 1,710,000 feet of gas in 24 hours.

Woodson County

Four producing wells were completed in Woodson County. C. L. Sheedy had the largest producer at No. 7 Klick, SW SE SE section 20-25-14. It had Bartlesville sand at 1,406-44 feet; total depth 1,465 feet; was shot with 300 quarts and flowed 725 bbls. of oil in 24 hours. Elbar Corp. No. 1 Opperman, NE cor. section 27-23-14, pumped 250 bbls. of oil after acidizing with 2,000 gallons. It topped lime at 1,609 feet and had pay at 1,612-18 feet, total depth. Pure Oil Co. No. 18 Winterscheid, SE NE SW section 6-24-14, was acidized with 1,000 gallons and pumped 100 bbls. of oil in 24 hours, producing from pay at 1,700-20 feet. Top of Mississippi lime was 1,674 feet; total depth 1,724 feet. Henderson Oil Co. No. 2 Vostarz, SE NE NE section 23-23-14, topped Mississippi lime at 1,595 feet; total depth 1,635 feet. It was acidized with 1,000 gallons and pumped 20 bbls. of oil in 24 hours.

The following new work was reported in Woodson County: Braden & Aikman No. 1 Merrill, NW cor. section 24-23-14, spudded; Elbar Corp. No. 2 Opperman, SE NE NE section 27-23-14, moving in material; Oko Oil Co. No. 12 Kimbell, SW SW NW section 18-24-14, rigging up machine; C. L. Sheedy and others No. 2 Eades, C NE SE section 24-25-13, drilling at 160 feet; same opertaors No. 4 Nordmyer, SE SW NW section 19-25-14, rigging up machine; same operators No. 3 Warner, SE SW SW section 21-25-14, set 10-inch casing at 775 feet and cleaning out; same operators No. 1 Lee, SW NW NE section 28-25-14, spudded; same operators No. 1 Pendley, C S half N half NE section 22-26-14, rigging up machine; same operators No. 1 Rehmer, SW NE SW section 22-26-14, spudded; Ladd and others No. 1 Millner, NW SW NW section 34-25-14, rigging up machine.

Sumner County

Craft & Wilson No. 1 Nevitt, NE NW NE section 36-32-2, wildcat in Sumner County, was dry and abandoned at 3,570 feet, total depth, in Siliceous lime topped at 3,508 feet. Top of Stalnaker sand was 2,223 feet; Kansas City lime 2,608 feet.

One new test was reported in Sumner County. Marathon Oil Co. No. 1 Markley, SW NW SE section 28-31-1w, was moving in material.

Graham County

Vickers Petroleum Co. and Phillips Petroleum Co. No. 1 Hutton, NE NE SE section 29-8-22w, Graham County wildcat, had 300 feet of water in the hole and was dry and abandoned in Siliceous lime at 3,870-76 feet, total depth. It topped anhydrite at 1,805 feet; Kansas City 3,473 feet; Conglomerate 3,765 feet.

Butler County

Vickers Petroleum Co. No. 3 Moore, C N half SW section 36-24-3, was the only Butler County completion. It topped lime at 2,703 feet; total depth 2,724 feet. It pumped 36 bbls. of oil and 18 bbls. of water in 12 hours; was acidized and pumped 170 bbls. of oil and 75 bbls. of water in 18 hours.

Cowley County

Lloyd, Frost & Study No. 2 McKinley, SW NW NE section 33-31-3, an extensioner of the Weathered pool in northwestern Cowley County, was officially completed at 3,315 feet, total depth. It made potential of 1,913 bbls. of oil. Top of Siliceous lime was 3,297 feet, and it had pay at 3,303-06 feet, total depth.

W. M. McKnabb No. 1 Community, C NE NW section 14-34-3, had Layton sand at 2,666-74 feet, total depth, produced 7,000,000 feet of gas and was completed. Saco Oil Co. No. 1 Saunders "B," SE NW NE section 31-31-6, had a hole full of water at 3,008 feet, total depth, and was dry and abandoned.

One new test was started in the Weathered area, Cowley County. It was Lloyd, Frost & Study No. 1 McKinley "B," SE NE NW section 33-31-3, building rotary rig.

Sedgwick County

Aylward and Shell Petroleum Corp. No. 3 Stolie, SE NE SW section 11-26-2, the only new test in Sedgwick County, was rigging up.

Greenwood County

Marathon Oil Co. No. 8 Pixley, NW SW NW section 8-22-10, in Greenwood County, was building rotary rig. Houston-Oklahoma No. 1 Coffman, NE NE NW section 20-24-13, was drilling at 1,075 feet.

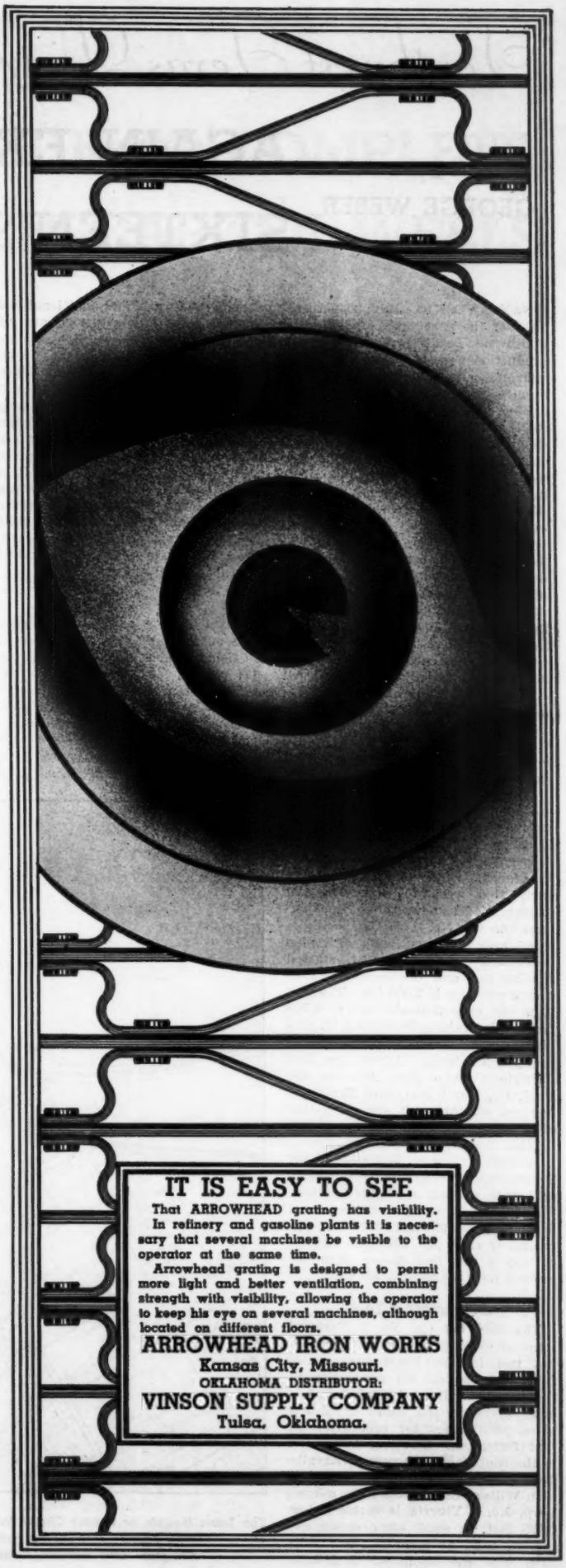
Stevens County

United Production Co. No. 1 Christopher, C SE section 11-33-39w, Stevens County, was a location in the Hugoton gas field.

Pawnee County

Simpson Oil Co. and others No. 1 Gates, SW cor. section 13-20-16w, was

(Continued on Page 90)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Southwest Texas District

By GEORGE WEBER

AGAIN EXTEND LOPEZ FIELD; SIXTEEN DRY HOLES LISTED

SAN ANTONIO, July 20.—At the close of the past week of drilling in Southwest Texas, prospects for new production were to be seen in several quarters. Important extensions had been made to some proven areas, and drilling activity was satisfactory, considering the heavy rains and summer slump in progress now in the Laredo district. Several disappointments were seen in the Lower Coastal district as tests which had shown indications of oil, or represented field outpost tests, were abandoned.

The Lopez field which has held the attention of operators for the past several weeks, may again be extended. This hinges on the completion of Starr Development Co. (Cox & Hamon) No. 1 Peal, east of the new Magnolia wells. The test cored oil sand at 2,140-45 feet and set casing. Plugs are to be drilled over the week end. Another producer for the northeast section is seen in Gem Oil Co. No. 1 Peal, offsetting Magnolia No. 1 Peal on the west. The Gem test recovered oil on a drill stem test and has also set casing.

The several showings of production are mostly those which were causing discussion a week ago, having been held up in completion attempts by deeper drilling, or weather conditions. In Aransas County a test is expected early this week to determine the existence of a new field. Buckingham Oil Co. No. 1 McCampbell, located near Aransas Pass, with pipe perforated at 6,561-54 feet, started flowing gas and distillate. Shut-in casing pressure is 2,200 lbs. The test blew out several weeks ago at 6,560 feet total depth, and shutting in, was plugged back and side-tracked to the present level. Across the San Patricio County line, Atlantic Oil Prod. Co. No. 1 Maryland Trust Co. has set a whipstock after twisting off drill stem at 5,350 feet and is now drilling for the same sand.

In Goliad County, Seni Oil Co. No. 3 Lutenbacher was being cored deeper before making a completion test. The wildcat blew out last week from sand at 5,352-65 feet but was immediately shut in. The hole will be carried a few feet deeper than the present total depth of 5,359 feet.

Outstanding Test

The Bay Oil Co. No. 1 National Bank of Commerce, outstanding wildcat test in the Fault Line zone, failed to complete for production in the Austin Chalk at 6,250 feet and is being cored to the Edwards to explore possibilities for production in that formation. The test is located in the southeastern corner of Zavalla County.

In Willacy County, Shell Petroleum Corp. No. 1 Yturria is coring below 6,795 feet, in sand, after encountering oil sand at 6,746-56 feet. This area was the scene of large-scale leasing last week, and additional tests in the Salt Lake district are anticipated soon.

San Patricio County, one of the most active sections in Southwest Texas from the standpoint of wildcatting, had another test in oil sand. Plymouth Oil Co. No. 2-D Welder, located near the town of Sinton, and adjacent to a gasser of the same company's, cored sand showing oil at 5,533-41 feet. Attempts at testing were failures, and operators have set casing. This wildcat is about 3,400 feet southwest of Portilla Oil Co. No. 1 Welder, a recent wildcat which was abandoned dry.

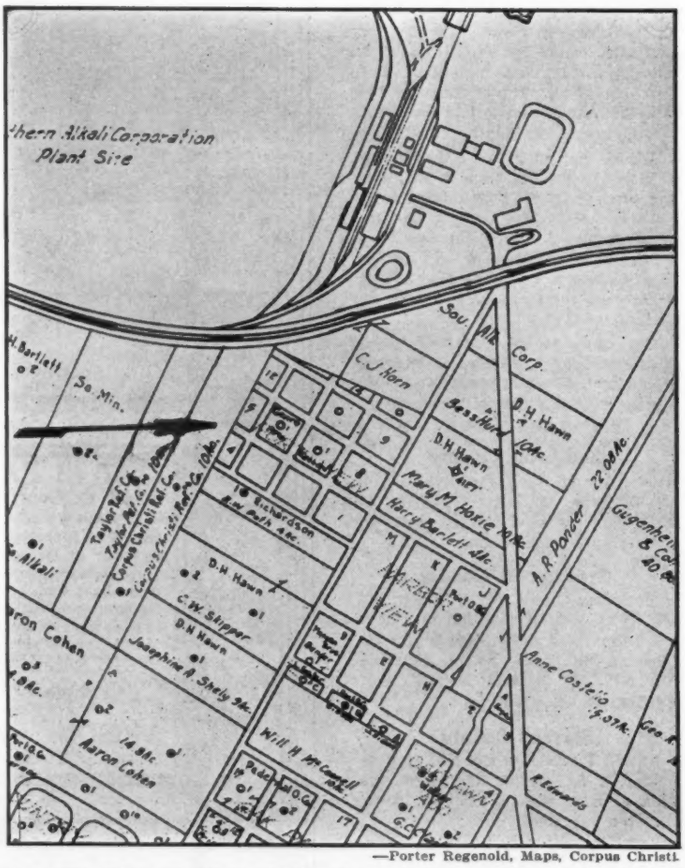
Duval County

Duval County also had indication of a substantial extension to one of its fields. Shell Petroleum Corp. No. 1-H Welder, Loma Vista area, is testing with the bottom of the hole in oil sand at 2,872 feet. It is a semi-wildcat, about a mile northwest of Santa Clara Oil Co.'s No. 1-A Welder, discovery well of the Loma Vista field. Offsetting it on the south is Pan American Production Co. No. 1-H Welder, which is approaching the same sand.

16 Dry Holes

The week was not without its several disappointments. A total of 16 tests were abandoned, 10 of which were wildcats. Duval County was hardest hit, with three wildcat tests plugged, and a few failures in field tests. The Hoffman field was defined by two dry holes. The Seven Sisters field was defined at a point on the southwest during the week, when Darby Petroleum Corp. No. 3-A Welder tested dry gas in sand cored at 2,655-72 feet. The test is located in Survey 103, an area which has seen considerable activity recently, extending the field in many points.

Another important failure was that of Taft Production Co. No. 1 Thomas, an eastward outpost test to the Taft field in San Patricio County. Although the field had already been apparently defined by the failure of the east offset to the discovery well, Smith No. 1 Britton, that test had not tried for production in the 3,900-foot sand which was subsequently opened to production, accounting for most of the production in the small field at present.



—Porter Regenold, Maps, Corpus Christi

The Saxet Heights or Corpus Christi field close to Nueces Bay and the plant site of the Southern Alkali Corp. Arrow indicates the site of the Corpus Christi Refining Co. plant now charging crude from two wells on its property

Saxet Busy Field

The Saxet field continued to increase in activity and importance in the Lower Coastal district. It now eclipses the younger Saxet Heights field in activity, leading all Southwest Texas fields. The deep 5,800-foot Frio sand is now commanding the attention of nearly all operators in the area. During the week, eight producers were completed, six of them flowing from that horizon. The remaining two are producing from the 4,400-foot sand, which has been developed in and around the town of Clarkwood.

At the close of the week nine wells were on the 5,800-foot sand in various stages of completion, and others were approaching it. This widespread development stands out as the most important proven field activity in Southwest Texas at present. The sand has been opened to production over a large area, and is bringing in large producers.

An important leasing transaction took place in the field. A total of 320 acres of proven acreage was involved in the deal. Pan American purchased a half interest in four tracts composing the Morgan Gulf holdings, and will begin immediate development. This is Pan American's initial entry into the Saxet field.

Saxet Heights on Wane

Saxet Heights continued to wane in activity. The recent Railroad Commission decision again cutting the field allowable has had some effect on operations. Drilling still continues fairly active, however, on the east edge of the field. Location was made and drilling commenced on an eastward outpost test during the week. Richardson Production Co. is making the test on the M. P. Burke lease, 1,000 feet east of production. The outcome of this test will be an important criteria in the field's development, as the best producers are being completed on the east edge of the fields.

Plymouth

Three completions in the Plymouth field were divided among the northern part of the field, the central portion in the bed of Chiltipin Creek, and the southern edge. Plymouth Oil Co. is actively drilling several tests in the field together with Sun Oil Co., Magnolia Petroleum Co. and Centennial Oil Co.

Increased operations in the new Bentonville field of eastern Jim Wells County are seen with the announcement of new locations over the

(Continued on Page 99)

Oklahoma Operations

By DAL DALRYMPLE

WILDCATS DUE TO COMPLETE; SEVERAL NEW CAPITOL WELLS

Field activity was at low ebb in Oklahoma the past week, only 25 wells being completed in the state during the week, with several old wells deepened and recompleted. The majority of the new producers were in the Fitts and Oklahoma City fields, but the feature of the week was the new Crescent gusher, which now rates as the state's biggest producer of the year. It was the Carter Oil Co. and Gulf Oil Corp. No. 2 Miller, SW NE SE section 28-17-4w, which showed for better than 50,000 bbls. daily.

A wildcat that was expected to reach a decision in the near future was a center of state oil interest as the new week began. It is the I. A. Shaughnessy and others No. 1 Berlowitz, SW SW NE section 9-12-3w, between the Britton and Oklahoma City fields. Total depth is 6,636 feet, with 6⅝-inch casing set at 6,538 feet. Oil stains were reported in Simpson Dolomite, topped at 6,626 feet. In the Capitol extension area of the Oklahoma City field operations were slowing down, there being only 47 active tests at the weekend, although new tests were scheduled to get under way soon in the Howe's Capitol addition sector at the south end of the extension.

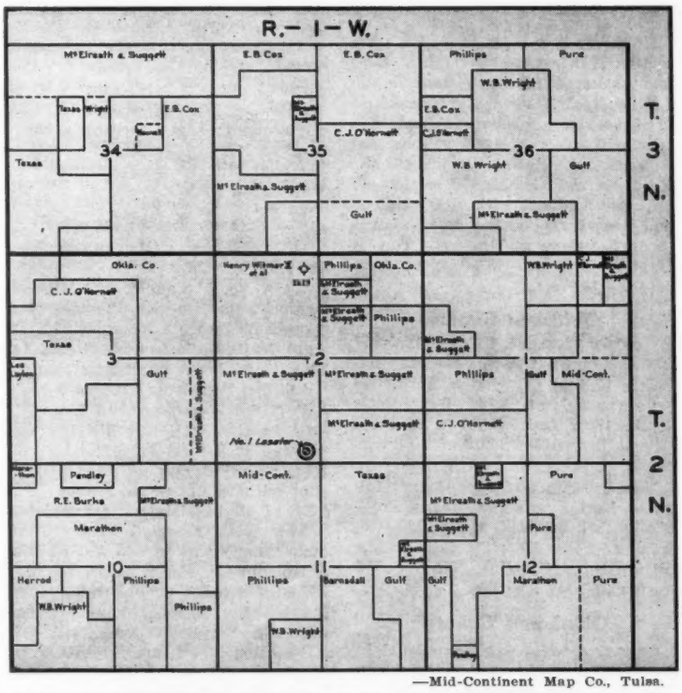
Another wildcat that is being watched is the McElreath & Suggett No. 1 Lasater, SE SE SW section 2-2-1w, near Pauls Valley, Garvin County. It showed streaks of sand in Simpson dense cores at 4,770-75 feet, and had a show of dead oil in a core at 4,775-4,808 feet. Operators were drilling ahead. There was little change in southern Oklahoma wildcats. In Love County, W. H. Riddle and others No. 1 Johnson, C SW SE section 20-8s-2w, near the Red river, was rigging up and ready to start drilling after spudding with machine. Sinclair-Prairie Oil Co. No. 1 Stockton, SE SE SW section 26-6s-2w, total depth 8,565 feet, was due to set casing about 150 feet off bottom. Amerada Petroleum Corp. was expected to complete No. 1-A Westheimer & Daube, SW SE SW section 27-6s-2e, as a producer in Viola lime at 2,430 to 2,790 feet, where it showed for about 35 bbls. of oil a day. Across the line in Carter County, Carter Oil Co. and associates continued to core at No. 1 Voorhees, C SE SW section 34-5s-2w, expecting a sand below 7,367 feet, total depth at last report.

Fear of a breakdown of the state proration system were allayed during the week, as Indian Territory Illuminating Oil Co. agreed to continue until July 29 a hearing on its petition to lift proration in the Simpson zone of the Oklahoma City field. Hearing on petition of the British-American Oil Co. to increase the July allowable already had been continued.

Pontotoc County

The Fitts field of Pontotoc county again led the state in number of completions in a week after relinquishing the lead for several weeks to the Capitol area of the Oklahoma City field. Seven new Fitts wells were completed. E. H. Moore and others No. 2-A Atkins, NE NW NW section 32-2-7, topped Wilcox sand at 4,370 feet; total depth, 4,412 feet, and flowed 755 bbls. of oil in one hour through casing. It made potential of 4,696 bbls., through tubing. Same operators' No. 8-A Craddock, SE SW SW section 29-2-7, flowed 1,102 bbls. in two hours through casing after topping Wilcox sand at 4,395 feet and drilling to 4,425 feet, total depth. It made potential of 4,265 bbls. Fleetborn Oil Corp. No. 4 Morin, SW SW SE section 20-2-7, topped Viola lime at 3,915 feet; Bromide, 4,190 feet; total depth, 4,315 feet. It was acidized and flowed 160 bbls. net in one hour; acidized again, it flowed 150 bbls. net in one hour and made potential of 2,964 bbls.

Sinclair Prairie Oil Co. No. 8 Burris, SW NW NW section 27-2-7, was acidized and flowed 835 bbls. in 3 hours and 15 minutes through casing and tubing. Top of Hunton lime was 3,370 feet; total depth, 3,470 feet. Magnolia Petroleum Co. No. 14 Metropolitan Life, SE NW NE section 27-2-7, topped Hunton lime at 3,318 feet; Sylvan shale, 3,715 feet; total depth, 3,718 feet. It was acidized and flowed 761 bbls. in three hours through casing and tubing. H. L. Blackstock and others No. 2 Daniels, SE SE SW section 21-2-7, topped Viola at 3,935 feet; Bromide, 4,200 feet; total depth, 4,351 feet. It was acidized and flowed 598 bbls. in two and one-half hours. After second acid treatment, it flowed 388 bbls. in four hours and made potential of 2,526 bbls. Amerada Petroleum Corp. No. 1 Woolley, SW SE SE section 21-2-7, flowed 558 bbls. in 1 hour and 28 minutes and made potential of 3,159 bbls. Top of Viola lime was 3,924 feet; Bromide, 4,180 feet; total depth, 4,350 feet.



—Mid-Continent Map Co., Tulsa.

McElreath & Suggett No. 1 Lasater, SE SE SW sec. 2-2-1w, Garvin County wildcat, had a show of dead oil at 4,775-4,808 feet, but was drilling ahead

In the Jesse pool, Continental Oil Co. No. 3 McCarthy, SW SE NW section 12-1-7, topped Wilcox sand at 4,714 feet and was completed at 4,732 feet, total depth. It flowed 1,071 bbls. in two and one-half hours while pulling drill pipe and made potential of 4,349 bbls. Sunray Oil Co. and others No. 1 Shumard heirs, NE SW SE section 2-1-7, Jesse townsite, flowed 1,250 bbls. of oil through casing in 12 hours at 4,549 feet, total depth, and later made potential of 1,272 bbls. through tubing. Top of Bromide was 4,355 feet; sand, 4,539 feet.

In the Allen area, Sunray Oil Co. No. 5 Shields, SW NE SE section 33-5-8, had sand at 1,066 feet, total depth 1,076 feet, and was completed as a gasser. It produced 3,500,000 feet of gas.

Amerada Petroleum Corp. No. 1 Norris, NE SE SE section 26-2-6, an old Fitts well, was plugged back from 4,395 feet to 4,273 feet and recompleted. After acidizing, it flowed 307 bbls. of oil, net, in eight hours. Phillip Boyle No. 1 Crist, SW SE SW section 30-5-4, an old well, was plugged back from 2,007 feet to 1,969 feet, acidized, pumped 223 bbls. in 24 hours and was recompleted. Blackstock and others No. 4 Daniels (formerly No. 1 Daniels), SE SE SW section 21-2-7, an old well, was plugged back from 4,478 feet to 3,815 feet, acidized and flowed 851 bbls. of oil in six hours through casing and tubing, recompleted. It was cutting 2 per cent water before plugging back.

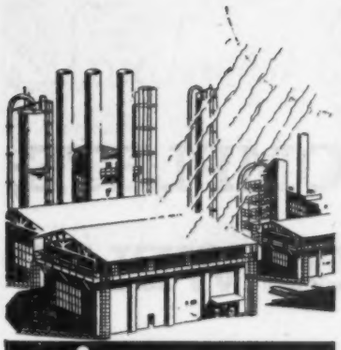
Production

Estimated daily average production in Oklahoma for the week ending July 18 and for the preceding week is as follows:

	Barrels	
	July 18	July 11
Allen	10,400	9,800
Asher-West Asher	700	700
Burbank	7,650	7,650
South Burbank	15,250	14,750
Balance Osage	23,750	23,750
Blackwell district	4,500	4,500
Bristow-Slick	8,400	8,375
Chandler	4,250	4,250
Crescent	6,500	6,500
Cromwell	3,500	3,525
Cushing-Shamrock	11,500	11,500
Duncan district	4,100	4,075
Edmond	11,700	12,050
Fish	8,800	8,425
Fitts	45,100	43,300
Gray	1,525	1,525
Graham	4,200	4,200
Healdton	9,200	9,225
Hewitt	4,300	4,300
Holdenville	1,025	1,025
Keokuk	6,975	6,200
Konawa	1,725	1,850
Lucien	12,850	12,750
Marshall-Lovell	1,250	1,250
Oklahoma City	149,950	145,750
Olympic	6,350	8,200
Papoose	1,000	1,000
Polo	3,300	3,200
Sasakwa and townsite	3,600	3,775
Sholem-Alechem	3,350	3,350
Seminole field:		
Bowlegs	12,825	12,325
Carr City	6,750	6,900
Earlsboro	7,050	7,350
South Earlsboro	925	925
East Earlsboro	10,375	10,050
Little River	13,825	13,450
East Little River	1,050	1,000
Maud	1,000	1,000
Mission	2,475	2,475
Seminole	10,050	10,575
East Seminole	3,250	3,125
Searight	5,650	4,750
Total Seminole	75,225	72,925
St. Louis-Pearson	24,750	22,450
Tatums	3,100	3,075
Tonkawa-Garber-Thomas	5,400	5,375
Wewoka	4,000	3,975
Yale-Jennings	4,000	3,975
Other pools	66,000	64,000
Total Oklahoma	559,175	546,525

New Pontotoc Tests

The following new work was started in Pontotoc County: Mid-Continent Petroleum Corp. No. 1 Gale Statler, SE SE SW section 2-1-7, building rig; Continental Oil Co. No. 3 House, NW NE SE section 12-1-7, cellar and pits; same operator's No. 2 Munroe, SE SW NW section 12-1-7, cellar and



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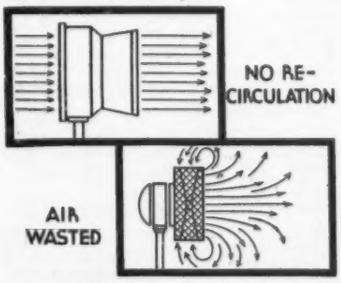

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pits; same operator's No. 1-A Holkum, NW NW SE section 27-2-7, digging cellar; Bishop Oil Co. No. 2 Simpson, SE NW NW section 28-2-7, an old well plugged back from 4,296 feet to 4,246 feet, testing; Skelly Oil Co. No. 16 Park College, NE SW NE section 28-2-7, location; E. H. Moore and others No. 1-B Schauers, NW SW NW section 29-2-7, moving in tools; Sunray Oil Co. No. 5 Richey, SE cor. section 1-4-7, an old well, rigging up standard tools to deepen; Phillip Boyle No. 2 Crist, SE SE SW section 30-5-4, cellar.

Fleetborn Oil Corp. No. 1-A Morin, SE cor. section 20-2-7, was acidized with 4,000 gallons and flowed 486 bbls. of oil in five hours through tubing. It was reacidized with 12,000 gallons and was waiting on results. Top of Bromide was 4,223 feet,; total depth, 4,338 feet. Stahl Petroleum Co. No. 5-B Dennis, SW cor. section 21-2-7, topped Hunton lime at 3,555 feet; Sylvan, 3,835 feet; total depth, 3,838 feet. It was acidized with 10,000 gallons and flowed 216 bbls. of oil net in one hour. Magnolia Petroleum Co. No. 9 Burris "A," NW SW NE section 27-2-7, topped Hunton lime at 3,323 feet; total depth, 3,641 feet. After acidizing with 5,000 gallons, it flowed 156 bbs. of oil gross in 45 minutes. Same operator's No. 11 Metropolitan Life, SE NW SW section 27-2-7, topped McLish at 4,095 feet; sand, 4,163 feet; total depth, 4,285 feet. It flowed 410 bbls. of oil in three hours through tubing; then was acidized with 8,000 gallons and was waiting. Sinclair Prairie Oil Co. No. 9 Burris, SE NE NW section 27-2-7, was acidized with 8,000 gallons and flowed 669 bbls. net in two hours through tubing and casing. Top of Hunton lime was 3,390 feet; total depth, 3,510 feet.

Okfuskee County

Gulf Oil Corp. No. 1 Cohee, SW SW NW section 31-10-9, was the only Okfuskee County completion. It topped Senora sand at 1,734 feet; total depth, 1,762 feet. After a 40-quart shot it flowed 306 bbls. of oil in 13 hours.

New work in Okfuskee County follows: Earl Evans and Morris No. 1 Lively, SE SE NW section 36-10-8, drilling at 590 feet; Sinclair Prairie Oil Co. No. 3 Carolina, NE NW SW section 31-10-9, location.

Oklahoma County

Only five wells were completed in the Capitol area of the Oklahoma City field, the smallest number in several weeks. British-American Oil Co. No. 1 Clark, SW SW NW section 23-12-3w, Block 7, Clark Subdivision, flowed 2,841 bbls. in six hours, made potential of 11,698 bbls. and was completed at 6,488 feet, total depth. Top of second Wilcox sand was 6,421 feet. Skelly Oil Co. and others No. 1 Capitol Park, NE SE NE SW section 22-12-3w, topped second Wilcox sand at 6,405 feet; total depth, 6,484 feet. It flowed 1,626 bbls. in six hours, making potential of 6,516 bbls. Phillips Petroleum Co. No. 2 Glen Ellyn, SE NW NW section 26-12-3w, made potential of 6,623 bbls., based on four-hour flow of 1,104 bbls. It flowed 1,659 bbls. in six hours. Top of second Wilcox sand was 6,403 feet; total depth, 6,415 feet. Barnsdall Oil Co. No. 1 Oklahoma Heights, SE SW SE section 15-12-3w, Block 3, Oklahoma Heights Addition, topped second sand at 6,420 feet; total depth, 6,455 feet. It flowed 93 bbls. of oil in six hours, making potential of 378 bbls. Same operator's No. 1 Cook, SW SW NW section 26-12-3w, Block 1, Gast Heights Addition, flowed 159 bbls. in six hours, making potential of 638 bbls. on gas lift. Total depth was 6,469 feet in Simpson formation.

In the Edmond pool, Marathon Oil Co. No. 2 Messer, NW SW SW section 32-14-3w, was completed at 6,702 feet, total depth, and flowed 901 bbls. of oil in 10½ hours before shot. After shot, it flowed 1,291 bbls. in four hours and made potential of 7,748 bbls. Second Wilcox sand was topped at 6,637 feet.

Anderson & Kerr No. 1 Park-O-Tell, Block 16, Barrows Second Addition, Capitol Extension area, Oklahoma City field, was deepened from 6,474 feet to 6,484 feet and recompleted. It flowed at the rate of 441 bbls. per hour, with 15,000,000 feet of gas.

Warsaki & Gibbons No. 1 Oklahoma Heights, NE SW SE section 15-12-3w, and Hall & Briscoe and others No. 1 Thompson, NW NE SW NW section 26-12-3w, Block 3, Gast Heights addition, were abandoned locations in the Capitol area.

New work in Oklahoma County: Anderson-Prichard Oil Corp. No. 1 Boedecker, NE SE SW section 22-12-3w, Block 15, Barrow's Second Addition, rig; Travis Petroleum Co. No. 1 Fair Park, SW SW NW section 36-12-3w, rigging up rotary; Slick-Urschel Oil Co. and others No. 2 Owens, NE NE SE section 19-13-3w, rig corners; same operator's No. 1 Meeker, NW cor. section 29-13-3w, an old well plugged back to 6,678 feet, waiting on cement.

Pottawatomie County

Only one new well was completed in Pottawatomie County. Mulberry Oil Co. No. 1 Sigmud, NE NE NW section 5-10-4, in the Shawnee pool, topped Earlsboro sand at 4,427 feet; total depth, 4,474 feet. It flowed 112 bbls. in 24 hours through casing.

Phillips Petroleum Co. No. 3 Duff, SW NW SW section 10-7-4, an old well in the St. Louis district, was plugged back from 3,998 feet to 3,490 feet, ripped casing at 3,440-60 feet, shot with 20 quarts and flowed 128 bbls. of oil in 24 hours, recompleted.

New work reported in Pottawatomie County was as follows: Phillips Petroleum Co. No. 4 Booze, NW NE SE section 9-7-4, an old well preparing to plug back; Magnolia Petroleum Co. No. 1 Wilamette, SW SW NE section 12-7-4, an old well being deepened, rigging up standard tools; Tom Phillips & Kimrow Drilling Co. No. 1 Dean, C E half SE NW section 23-11-6, cellar and pits; Mid-Texas Petroleum Co. No. 1 Brandenburg, SE SE NW section 21-7-4, an old well deepened from 4,184 feet to 4,199 feet, testing; Newt Barrett No. 2 Brandenburg, NW SE NE section 3-7-4, an old well being deepened.

Osage County

Osage Gas Production Co. No. 398 Osage, NE SW SW section 20-28-11, the only new well completed in Osage County, was dry and abandoned at 861 feet, total depth.

Peters Oil Corp. and Sinclair Prairie Oil Co. No. 12 Sawyer, NW SW NE section 24-24-7, in the Kaishke area, an old well, was deepened from 712 feet to Chat at 2,425-72 feet; total depth, 2,473 feet. After a shot it flowed 5 bbls. of oil a day and was recompleted. Grimes-Gillespie No. 5 Osage, NW NW SW section 30-21-12, an old well, was deepened

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from 2,027 feet to 2,060 feet, had a hole full of water and was abandoned.

The following new Osage County work was reported: Norbla Oil Co. No. 1 Osage, NE NE SW section 13-23-6, wildcat southwest of Naval Reserve pool, location; Gray & Tolson No. 10 Osage, SW NE SW section 27-21-9, location; Greer & Tarr No. 3 Comer, SE NW SW section 32-21-9, an old well deepened to 1,870 feet, shut down; Ohio Osage Oil Co. No. 11 Osage, SW NE NW section 34-21-9, rigging up machine; J. R. Higgins No. 1 Osage, SW cor. section 12-21-10, moving in material; Bay Oil Corp. No. 1 Osage, SW NW SE section 4-24-8, location; Philtex Oil Co. No. 59 Osage, SW NW NW section 22-25-12, location; Phillips Petroleum Co. No. 6 Osage, NW NE NW section 36-27-5, an old well, cleaning out.

Hughes County

The only completion in Hughes County was Champlin Refining Co. No. 2 Wolf, SW NW NW section 32-7-8, in the Fish area, an old well plugged back from 4,223 feet to 3,863 feet, shot, encountered water and was dry and abandoned.

One new operation was reported in Hughes County. George Manahan and others No. 7 Chapman, SW SW SE section 10-7-8, topped Booch sand at 2,892 feet, drilled to 2,915 feet, total depth, and was bailing.

Pawnee County

Privett Drilling Co. No. 3 Cline, SW NW SE section 10-20-6, in the Maramec area, Pawnee County, topped Bartlesville sand at 3,125 feet; total depth, 3,170 feet, completed. It swabbed 10 bbls. of oil naturally in 24 hours; was shot, and swabbed 23 bbls. of oil.

Kay County

Shell Oil Corp. and Continental Oil Co. No. 3 Lawrence, NE SE NW section 5-28-1w, in the Braman area, Kay County, an old well, was deepened from 2,385 feet to 2,795 feet, was shot and flowed and swabbed 221 bbls. of oil in 24 hours, recompleted. Same operators were rigging up rotary at No. 6 Bechtel, NE SE SW section 5-28-1w, an old well to be deepened and the only new work reported in Kay County.

Payne County

The only new work in Payne County was Wood Oil Co. No. 1-A Shannon, NW SE SW section 23-18-3, a location.

Seminole County

Two new wells were completed in Seminole County. Carter Oil Co. and others No. 2 Harber C-28, C E half SW SE section 2-10-6, in the Keokuk area, topped Misener sand at 4,159 feet, total depth 4,176½ feet, and made potential of 456 bbls. of oil. Amerada Petroleum Corp. and others No. 1 Newell, SE SE NW section 3-10-5, in the Stout area, topped Hunton lime at 4,412 feet; total depth, 4,450 feet; acidized and flowed 599 bbls. oil, cutting 40 per cent water; plugged back to 4,434 feet and swabbed 22 bbls. of oil and 65 bbls. of water in eight hours. It later flowed 225 bbls. of oil and 750 bbls. of water in 24 hours, completed.

Magnolia Petroleum Co. No. 2 Dindy, SE SE NW section 11-7-6, an old well in the Little River area, was deepened from 4,243 feet to 4,445 feet, water intruded and it was plugged back to 4,224 feet and recompleted at 4,239 feet. It pumped 45 bbls. of oil and 5 bbls. of water in 24 hours. Fleetborn Oil Corp. No. 1 Chapman, an old well, was plugged back from 4,260 feet to 4,081 feet, failed to make a producer by shooting and was dry and abandoned.

New work in Seminole County: Indian Territory Illuminating Oil Co. No. 5 Nitey, SW NE NE section 2-7-6, an old well, deepened to 4,132 feet and plugged back to 4,130 feet, running tubing; Magnolia Petroleum Co. No. 1 Dindy, NE SE NW section 11-7-6, an old well being deepened, rigging up standard tools; Sinclair Prairie Oil Co. No. 3 S. Warrior, SW cor. section 17-9-7, building rig; Deep Rock Oil Corp. No. 5 Hagler, NE SE NE section 19-9-7, rig; Carter Oil Co. No. 3 Ferguson, C W half SW NW section 11-10-6, rig.

Creek County

Magnolia Petroleum Co. No. 11 Street, NE SW NE section 3-17-8, in Creek County, pumped 29 bbls. of oil in 24 hours after a shot with 130 quarts. It topped Layton sand at 1,359 feet; total depth, 1,409 feet, completed. Beverly Development Co. No. 1-A Carman, SE SE NE section 25-17-8, had Jones sand at 1,440-64 feet, total depth, was shot with 100 quarts and flowed 31 bbls. of oil in 24 hours, completed. A. B. Ice No. 1 Sandlin, C SE NE section 6-17-10, pumped 4 bbls. of oil after a shot with 85 quarts and was completed in Red Fork sand at 2,195 to 2,236 feet, total depth.

Sinclair Prairie Oil Co. No. 2 Upton, NE NW NE section 4-16-12, an old well deepened from 1,543 feet to sand at 2,275-79 feet, pumped 25 bbls. of oil in 24 hours, recompleted.

The only new test in Creek County was Sinclair Prairie Oil Co. No. 2 Gilcrease, SW SW SE section 33-17-12, a machine.

Okmulgee County

Strozier No. 1 Pence, C NW SW section 21-16-11, Okmulgee County, was completed as a gasser at 2,140 feet, total depth. It produced 1,500,000 feet of gas. Aggis Drilling Co. No. 6-A McKinney, NW NW SW section 16-15-14, was shot with 25 quarts and pumped 5 bbls. of oil in 24 hours from sand at 807 to 850 feet, total depth, completed. Lease Investment Co. No. 1 Fewell, SW SW SE section 33-15-11, had Wilcox sand at 2,861-92 feet and was dry and abandoned at 2,896 feet, total depth.

Noble County

One new test was reported in Noble County. Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 4 Kolb, SW SE NW section 33-20-2w, was a location.

Logan County

Carter Oil Co. and Gulf Oil Corp. No. 2 Walker, SW NE NE section 33-17-4w, in the Crescent pool, Logan County, was rigging up to drill deeper.

Cleveland County

Sinclair Prairie Oil Co. and others No. 2 Franklin, SE cor. section 21-10-2w, in the Moore Pool, Cleveland County, was digging pits.

Lincoln County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 9 Rice, NW NE NE section 11-14-3, in the Chandler area, Lincoln County, had Skinner sand at 4,223-65 feet; total depth, 4,273 feet, completed. It flowed 144 bbls. of oil in 16 hours before shot and 204 bbls. in 24 hours after shot.

Carter County

No new wells were completed in Carter County. Cox-Hamon No. 2 Daney, SW cor. section 4-4s-3w, an old well, was deepened from 1,037 feet to 1,097 feet, where water intruded. It was plugged back to 1,088 feet, drilled out to 1,094 feet, pumped 5 bbls. of oil in 24 hours and was recompleted.

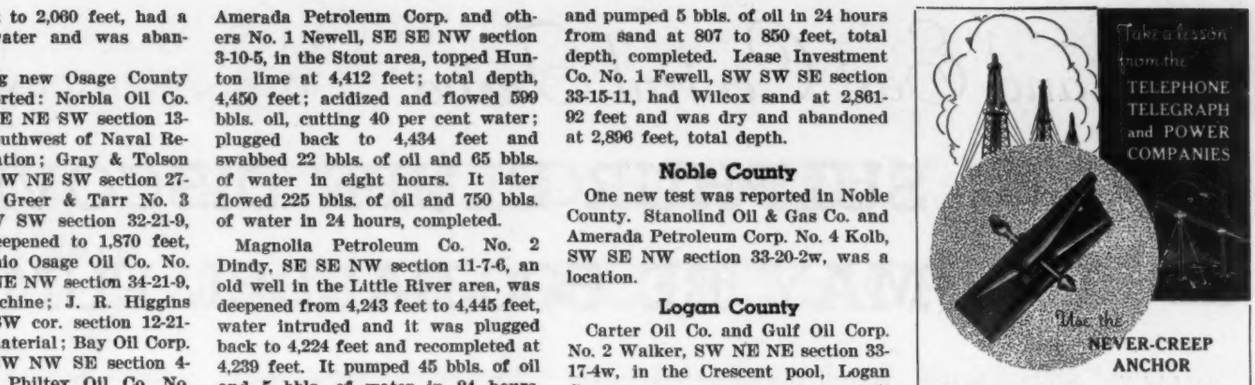
New work in Carter County: Simpson-Fell Oil Co. No. 1 Byrd, SW cor. section 4-2s-2w, an old well being deepened, drilling at 1,490 feet; Cox-Hamon No. 25 Wesley, NE SW SW section 3-4s-3w, drilling at 327 feet; Pure Oil Co. No. 20 Westheimer & Daube, NE cor. section 9-4s-3w, machine; same operator's No. 21 Westheimer & Daube, C W half NW NW section 10-4s-3w, machine.

Southwestern Oklahoma

The only well completed in southwestern Oklahoma was Gulf Oil Corp. No. 2 Johnson, SE cor. section 11-1n-20w, in Jackson County. It topped Granite Wash at 1,450 feet; total depth, 1,534 feet, and pumped 32 bbls. of oil in 24 hours.

New work: In Jackson County—Gulf Oil Corp. No. 2 Ellis, NW SE NE section 6-1s-19w, location; C. R. Conyer and others No. 2 Cobb, NW NE NE section 22-1n-20w, machine. In Jefferson County—Farlyn Oil Co. No. 35 Seay, SW NE SW SE section 3-7s-5w, location. In Stephens County—Texas Co. No. 1 Bohanan, NE NE NW NW section 15-3s-5w, location; George L. Pace and others No. 9 Payne, NW NE NE NW section 28-2s-7w, rig. In Kiowa County—Travis & Scott No. 1 Doyle, NE SE SW section 21-5-17w, wildcat, drilling at 366 feet. Westbrook & Likeing No. 1 Aetna Life Insurance Co., NE SE SE section 10-5-16w, machine.

S. Masten Nixon, executive of the Southern Minerals Corporation, Corpus Christi, Tex., returned to his home last week after an extended trip to New York, Philadelphia, Pa., and other eastern points.



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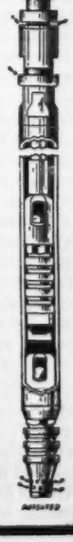

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East and East Central Texas

By
L. E. BREDBERG

SULPHUR BLUFF DISCOVERY MAY BE 500-BARREL PUMPER

DALLAS, Tex., July 20.—The Hopkins County discovery of Hager and others on the J. E. Worsham lands, in the Alexander O. Wetmore Survey, 3 miles south of Sulphur Bluff, has been placed on pump, but initial pumping gauge has not yet been reported. It is estimated good for from 300 to 500 bbls. per day on the pump, producing from some 35 feet of reported saturated Paluxy sand, the same pay formation that is found in the Talco pool about 18 miles to the northeast. The Talco discovery made 552 bbls. on the pump from about the same amount of sand, but when deepened 52 feet it increased to 725 bbls. per day, pumping and flowing. This new discovery of the Sulphur Bluff pool may later be deepened in search of more sand and better production, but offset wells will probably be drilled before that is done.

Total depth of the Sulphur Bluff discovery stands at 4,500 feet. Elevation is 440 feet. As soon as pumping gauge is announced, new locations in the area are also expected to be announced. Oil from the discovery will probably be sold for drilling other tests in the area. Gravity of the Sulphur Bluff discovery oil was 27 degrees at 90° temperature, making it around 24.5 degrees A.P.I. gravity, or the same as the Talco crude.

Talco Pool

This week there were 14 locations, eight of which had already started drilling, announced for the Talco pool. Four of these were reported for the Franklin County side and 10 for the Titus County side of the pool. In all, there are 42 rigs and drilling wells in the pool to date, 14 in Franklin and 28 in Titus County, which shows the pool as one of the most active and rapidly drilled fields in the East Texas district. Town-lot drilling is responsible for this fast rate of drilling and activities are expected to fall considerably after the town lots are drilled up.

The only two completions reported for the Titus side of the field this week proved dry, while one on the Franklin County side also was dry. Stroube and Stroube's No. 1 S. E. Strutton, in the R.E.P.&P. Survey, about 6 miles east of Talco and 4 miles east of production, limited the field in that direction when it was abandoned at a total depth of 4,510 feet, showing but little oil and gas in the Paluxy topped at 4,275 feet. Elevation is 341 feet.

Another abandonment for the Titus side of the field was drilled by Jones and Shelburne on the M. Hazelwood farm in the I. P. Stern Survey, about 1½ miles south of production and due south of Talco. It was given up as a failure at 4,334 feet. The Paluxy was topped at 4,285 feet and elevation is 342 feet. That it was too far south of the fault was the verdict.

A surprise failure for the Franklin side of the field was registered by J. P. Bond and G. B. Werby in their No. 2 T. J. Sanders, in the William F. Dyer Survey, about midway between production to the northeast and the Earl Bateman and others No. 1 Phillips, which has made a pumper at 4,343 feet. The Sanders test was abandoned at a total depth of 4,344 feet, elevation 359 feet. The Bateman well, farther to the southwest of the fault, proved a small producer, being completed last week making 40 bbls. per day on the swab. It was drilled to a total depth of 4,361 feet, but was plugged back 18 feet to shut off bottom-hole water.

Interesting Outpost

The most interesting outpost test in the area now is L. S. Flannery and Paul Doran No. 1 Hedrick, about 1 mile to the west of the Bateman outpost and extension producer. It has been held up at 4,353 feet in shale and lime by a fishing job, but all interested in the pool will be watching this test when it drills deeper. It is about 3 miles southwest of the nearest production and if it proves a producer will open much more acreage to development west of the Bateman well. It, too, is in Franklin County.

Two producers were completed in Franklin County this week, one by the Humble Oil & Refining Co. on its King and Hughes lease and the McAlister Fuel Co. on its Crawford lease, both in the Orlando James Survey. The former company's well is south of the first well brought in in this extension area, about 2 miles southwest of the town of Talco, the area in which the best wells of the pool have been completed thus far.

Pipe Line to Field

Humble Pipe Line Co. is now surveying for an 8-inch pipe line to be laid from the Talco pool to the company's pumping station just south of Longview on its Van-East Texas-Louisiana main line. It will take about three months to lay the line, Humble Oil & Refining Co. is now laying an 8-inch gravity gathering line in the field and has erected two 55,000-bbl. steel storage tanks as part of the pick-up system in the field.

Wildcatting

Only one wildcat was abandoned in the East Texas district this week, that being in Freestone County. Tom Sharp and others sank this test on the E. E. Lamb farm in the James Sparks Survey, 3 miles southeast of Streetman. Total depth of the hole is 3,378 feet. The Woodbine was topped at 3,340 feet, with an elevation of 368 feet.

Locations were staked for two wildcats, one in Fannin and the other in Henderson County. The latter test is to be drilled by Atex Oil Co. of Athens, with Taubert and McKee of Tyler getting contract to sink a 5,000-foot hole on the Texas Pecan Nursery tract in the J. M. Arnett Survey, 5 miles south of Chandler in the eastern part of the county. The test is on a block of 5,000 acres taken previously by Shell Petroleum Corp. and thoroughly core-drilled by that company. Sun Oil Co., Gulf Oil Corp., Humble Oil & Refining Co., Texas Co., Empire Gas & Fuel Co. and others have acreage in the vicinity of the block.

Styles and Smith are to drill the Fannin County test on the R. Stewman lands in the J. W. Clark Survey, 2 miles southeast of Trenton. It has spudded and shut down to complete rigging up.

Talco Hearing

During the week the Railroad Commission of Texas held a hearing at Paris, Tex., on the Talco pool. The majority of independent operators stood for well spacing which will allow one well to each 10 acres whereas the major operators asked for 20-acre units. No announcement has yet been made as to the commission's decision. A top allowable of 25,000 bbls. per day was recommended for the pool.

Average bottom-hole pressure of the wells, in the Talco field, according to the Railroad Commission engineering tests during July, was 1,895 pounds at a depth of 3,900 feet.

East Texas Field

This week the East Texas field passed the 21,000-well mark, with the daily allowable of the field standing at 431,317 bbls. as of July 15, 72 wells being carried on the reports as "dead," with 20,958 producing. The total hourly potential of the field was 12,848,096 bbls., 15,897 wells being classed as marginal.

Bottom-hole pressure of the field as of July 12 was 1,180.21 pounds, a drop of 2.23 pounds since the preceding reading, according to the engineering department of the commission.

EAST TEXAS COMPLETIONS

Gregg County

Atlantic Oil Producing Co. No. 27 Turner, 3,551-3,622 feet, 120 bbls. per hour. Stanolind Oil & Gas Co. No. 10 Hammond, 3,497-3,540 feet, 20 bbls. in 24 minutes; No. 18-B Thrasher, 3,536-3,608 feet, 19 bbls. in 15 minutes. Stanolind and others No. 19-C Flewellen, 3,638-56 feet, 16 bbls. in 15 minutes. Tide Water Oil Co. No. 21 Castleberry, 3,586-3,600 feet, 30 bbls. per hour; No. 15 Tuttle, 3,516-46 feet, 15 bbls. in 10 minutes.

Arcadia Refining Co. No. 1 Samples, 3,739-44 feet, 52 bbls. per hour. Arkansas Fuel Oil Co. No. 14 Brown, 3,575-3,601 feet, 60 bbls. per hour. Burma Oil Co. No. 2 Pentecost, 3,439-75 feet, 20 bbls. in five hours, on pump. Empire Gas & Fuel Co. No. 12 Lockhart, 3,510-28 feet, 22 bbls. in 20 minutes. Iowa-Payne Oil Co. No. 6-A Walker, 3,663-68 feet, 30 bbls. per hour. McAlister Fuel Oil Co. No. 7-O Sabine River, 3,470-90 feet, 360 bbls. in three hours.

Magnolia Petroleum Co. No. 1 Sheppard, 3,577-79 feet, 104 bbls. per hour. O.K. Oil Co. No. 1 Benson, 3,661-62 feet, 30 bbls. in two hours, 4 per cent salt water, on pump. Shell Petroleum Corp. No. 55 Watson, 3,548-3,742 feet, 50 bbls. per hour. Sun Oil Co. No. 15 Pentecost, 3,603-28 feet, 55 bbls. per hour. Texas Co. No. 20 Walker, 3,588-90 feet, 21 bbls. in 45 minutes; No. 21 Walker, 3,595-97 feet, 20 bbls. per hour, on pump.

Rusk County

Beren No. 7 Kenedy, 3,628-67 feet, 20 bbls. per hour on pump. Bowles Oil Co. No. 19 Wells, 3,686-3,700 feet, 90 bbls. in 12 hours, on swab. Friedman and others No. 11 Mayfield, 3,732-33 feet, 14 bbls. in 90 minutes. Humble Oil & Refining Co. No. 39 Peterson, 3,680-3,720 feet, 85 bbls. per hour; Sladek, total depth 3,753 feet, 15 bbls. per hour, on pump.

Caldwell No. 1 Fox, 3,719-26 feet, 80 bbls. per hour. J.H.V. Oil Co. No. 1 Propes, 3,505-85 feet, 50 bbls. per day, on pump. Farrell & Co. No. 7 Hammett, 3,670-72 feet, 40 bbls. per hour. Gant and others No. 36 Moore, 3,555-79 feet, 30 bbls. per hour. Gulf Oil Corp. No. 12-C Mayfield, 3,619-27 feet, 40 bbls. per hour. McMurray No. 2-B Dickerson, 3,530-3,625 feet, 75 bbls. per day, on pump.

Overton Refining Co. No. 5 Rollins, 3,658-62 feet, 40 bbls. per hour. Petroleum Marketing Co. No. 3-D Graham, 3,687-88 feet, 20 bbls. in 40 minutes. Payton Brothers No. 1 Nicholas, dry and abandoned 3,827 feet. Stanolind Oil & Gas Co. No. 24-A Maxwell, 3,763-84 feet, 23 bbls. in 20 minutes. Stanolind and Pure Oil Co. No. 18 Burton, 3,604-51 feet, 42 bbls. per hour. Tide Water Oil Co. No. 4 Thrash, 3,705-38 feet, 15 bbls. in 15 minutes.

Smith County

Hanbury No. 7 Sharp, 3,688-90 feet, 25 bbls. per hour, on pump. McMurray No. 12 Robertson, 3,789-90 feet, 10 bbls. in 15 minutes. Magnolia Petroleum Co. No. 12 Tyiska, 3,815-16 feet, 10 bbls. in 10 minutes.

Upshur County

California Co. No. 14 Walker, 3,626-50 feet, 15 bbls. per hour. Hughben and others No. 6 Widner, 3,708-38 feet, 20 bbls. in four hours, on pump.

(Continued on Page 88)

California Field Report

By L. P. STOCKMAN

STEVENS DISCOVERY STARTS TWELVE GEOPHYSICAL TESTS

LOS ANGELES, Calif., July 20.—The discovery of a prolific oil field by Shell Oil Co. in the Stevens district, Kern County, has stimulated geophysical exploration in the San Joaquin Basin. Twelve seismograph crews are working north and south of the discovery well, the center of activity extending northward from the Stevens and Elk Hills fields to Lost Hills and Buttonwillow. An additional crew is working south of Stevens in the southern part of the San Joaquin Basin. The geophysical surveys will lead to the drilling of several wildcats within the next six months. The Stevens field appears to be the most important discovery recorded in California in several years and other operators are concentrating their attention along the projected line of folding in the hope of finding another field similar to that discovered by Shell Oil Co.

In the Stevens field, Shell Oil Co. No. 2 K.C.L. in section 29-30-26 is drilling at 3,495 feet. The company's natural gasoline plant in the field is scheduled for completion within 60 days. Production of the discovery well is being trucked out pending completion of its new pipe line, which should be in operation before the close of the current year. Ohio Oil Co.'s wildcat in the Rio Bravo district of Kern County, located 6 miles northwest of the Stevens discovery, has taken on a rather dubious outlook at 8,590 feet, but the geologic column is favorable for another several thousand feet if structural conditions do not prove to be the dominating factor.

Rosecrans

Republic Petroleum Co., in the Rosecrans field of Los Angeles Basin, cored an oil sand at 5,936 feet in No. 1 Trust, an outpost located in the extreme western part of the field. A formation test with the packer set at 5,883 feet and the hole open to bottom resulted in the recovery of seven stands of oil and an undetermined amount of drilling fluid and water. The valve was open 25 minutes and gas began flowing within six minutes. The company, due to the limited amount of oil sand logged, is coring ahead. Barnsdall Oil Co. is reaming No. 15 O'Dea at 6,383 feet preparatory to completing in the Gordon zone at approximately its present depth.

General Petroleum, after finding two productive zones in No. 1 Terminal, a wildcat in the Wilmington district of Los Angeles Basin, is drilling ahead a little below 3,800 feet in search of a third and more prolific horizon. The company has staked location for No. 2 Terminal and should spud in this well within the next fortnight. In the Torrance field, Chanslor Canfield Midway Oil Co. will abandon No. 23 Del Amo due to inability to exclude water from the productive horizon. This well was carried down to 4,887 feet, then plugged back to 4,854 feet and the casing perforated at 4,800-10 feet. On a production test it bailed water with only a trace of oil, although a core taken within this interval showed some promise. Continental Royalties, Ltd., completed No. 1 Torrance in the Redondo section of the Torrance field. It was bottomed at 3,573 feet, but was good for only 162 bbls. of 14.5 gravity oil per day. Drilling in the Redondo extension of the Torrance field is drawing to a close. Recent completions have shown only small production and the output of wells reflects a very decided encroachment of edgewater.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 5		June 28			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	151,541	527,098
Gasoline	229,814	32,831	191,463	27,352	3,504,392	3,969,814
Kerosene	.....	.....	80,531	11,504	729,961	669,351
Foreign exports:						
Crude oil	54,470	7,781	355,430	50,776	4,830,193	6,147,693
Fuel oil	140,147	20,021	209,264	29,895	5,384,416	6,719,845
Diesel and gas oil	135,091	19,299	57,145	8,164	2,999,285	2,342,471
Gasoline	157,941	22,563	138,040	19,720	3,632,822	3,316,249
Kerosene	124,089	17,727	84,105	12,015	803,273	771,718
Other unfinished oil .	.....	.....	.....	.....	16,894	65,822
Coastwise-domestic:						
Crude oil	.....	.....	74,999	10,714	3,589,194	2,989,699
Fuel oil	195,431	27,919	205,460	29,351	4,696,201	5,060,620
Diesel and gas oil	9,759	1,394	56,869	8,124	695,994	517,292
Gasoline	213,514	30,502	449,244	64,178	6,692,753	5,349,818
Kerosene	.....	.....	9,165	1,309	128,225	77,140

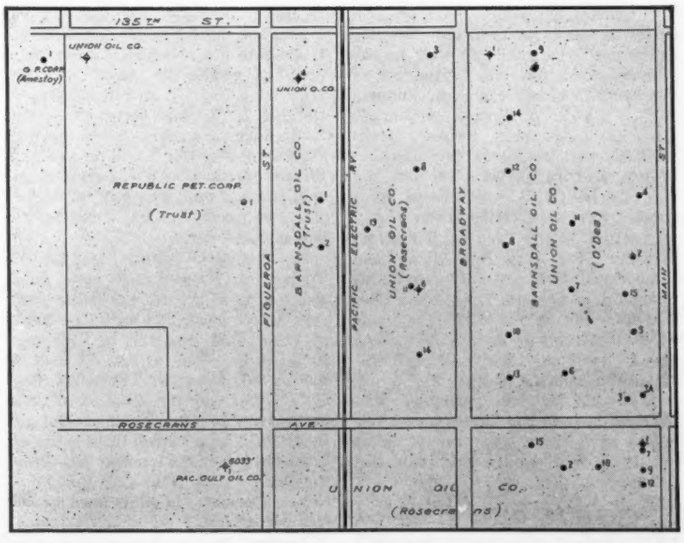
TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	157,258
Gasoline	.....	.....	80,365	11,481	227,419	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	68,586	280,849
Lubricants	.....	.....	.....	.....	27,673	29,221
Foreign exports:						
Crude oil	95,097	13,585	177,023	25,289	1,593,167	1,426,499
Fuel oil	16,418	2,345	69,705	9,958	1,491,521	1,041,308
Diesel and gas oil	17,133	2,448	60,475	8,639	628,230	630,348
Gasoline	95,846	13,692	105,428	15,061	1,790,755	1,446,694
Kerosene	6,943	992	.....	.....	396,117	447,556
Lubricants	.....	.....	.....	.....	150,074	130,074
Coastwise-domestic:						
Fuel oil	99,787	14,255	121,312	17,330	3,787,985	3,148,169
Diesel and gas oil	.....	.....	39,618	5,660	388,473	141,667
Gasoline	87,176	12,454	189,211	27,030	2,753,661	2,593,563
Kerosene	.....	.....	.....	.....	88,330	60,647

Playa Del Rey

Eastern Oil Co., which cored a promising oil sand in No. 1 D.R.L.& W., a wildcat 1 mile east of the Playa Del Rey field of Los Angeles Basin, has concluded a deal with the Superior Oil Co. whereby the latter will take over the test. Superior has pulled liner preparatory to cleaning out and removing as much as possible of the heavy material pumped into the hole to prevent a blowout. Superior holds leases on approximately 300 acres of potential oil land east of the property held by Eastern Oil Co. Plans for coring ahead will depend largely on the ability to remove the tightly wedged 7-inch water string landed at 7,295 feet.

In the Huntington Beach field of Los Angeles Basin, Shell Oil Co. has started a test on a 2,500-acre block east of Huntington Beach and about 1 mile from the tide line. Union Oil Co. submitted a lease to the city council of Huntington Beach covering 93 acres in that area on the basis of a one-sixth royalty and $25 per acre yearly rental. The Shell's wildcat is on property leased from the Anaheim Sugar Co., although the mineral rights are owned by a subsidiary of the Lloyd Corp. The city council of Huntington Beach recently granted a lease to F. E. Fairchild on a strip of land flanking the athletic field of the Huntington Beach Union High School on a one-sixth royalty basis with the stipulation that a well must be drilled to 6,000 feet unless satisfactory production is developed above.



Republic Petroleum Corp. has cored a promising oil sand on the Trust lease in western end of Rosecrans field

Midway-Sunset

Chanslor Canfield Midway Oil Co. No. 17-21 in section 21-32-23, Midway-Sunset field, Kern County, which was originally completed pumping 430 bbls. of 18.9 gravity oil per day from 2,105 feet, has shown a consistent increase from day to day and the latest recorded production was 1,822 bbls. In the past week the well has been alternately pumping and flowing, with each day's production increased. General Petroleum completed No. 335 Moco, section 35-12-34, Midway-Sunset field, pumping 110 bbls. of 18.9 gravity oil per day, cutting 30 per cent at last report. It was finished at 1,650 feet after plugging back from 2,043 feet. The cooperative development agreement involving the Buena Vista Hills section of the Midway-Sunset field, approved by the Navy Department, will prevent overdevelopment and consequent waste of natural gas. The acreage is within Naval Petroleum Reserve No. 2 established during the administration of President Taft, but the new agreement does not apply to present known horizons. The consistent development of deep production in the Miocene and Eocene rocks in the San Joaquin Basin tends to indicate that eventually deep drilling in the Midway-Sunset field will result in large production and the new operating agreement was formulated with this thought in mind.

In the Kern River field, two of three wells completed showed a water cut: No. 57 of Chanslor Canfield Midway Oil Co., section 23-28-27, 32

per cent; No. 1 Kern of the Seven Spot Oil Co. in section 13-28-27, 21 per cent; No. 57 pumped 175 bbls. of 14.8 gravity oil per day from 2,140 feet, while the Seven Spot Oil Co.'s new producer showed an initial pumping of 200 bbls. from 1,228 feet. National Oil Co. No. 4 Provident, in section 11-28-27, blew out a few days previous to completion but was brought under control and finished pumping 148 bbls. of 16.1 gravity oil per day from 1,848 feet. The well is experiencing considerable difficulty with gas and sand and consequently may show a higher production after this has been alleviated.

Round Mountain

Honolulu Oil Corp. and Shell Oil Co. in the Round Mountain field of Kern County, are expected to continue active operations during the next several months. Each is erecting a number of rigs. Shell has been developing its holdings in both Round Mountain and Mount Poso, as the company is counting on this production to meet refinery requirements and to keep its new pipe line working to capacity upon its completion. Shell No. 10 Freeman in section 20-28-29 was brought in pumping 190 bbls. of 17.2 gravity oil per day from 1,645 feet. No. 9 Caldwell, bottomed at 1,540 feet, was good for 208 bbls. of 16.2 gravity oil per day on the beam. Honolulu Oil Corp. No. 11 in section 20-28-29 was completed pumping 380 bbls. of clean 17.9 gravity oil per day from 1,827 feet.

Buffalo Oil Co. No. 3 Canal, Mountain View field, Kern County, was good for 649 bbls. of clean 29.1 gravity oil per day from 4,880 feet after the hole had been plugged back from 5,009 feet.

Standard Oil Co. has finished its No. 78-29-J in the Kettleman North Dome field, flowing 992 bbls. of clean 32.9 gravity oil per day from 8,185 feet, and 7,460,000 feet of gas. Completions in the North Dome of Kettleman Hills should show a big increase within 60 days as Kenda has eight wells rotating below 8,000 feet and Standard is making hole in seven tests below this point. Shell Oil Co. has taken No. 1 Dixon off production in order to do remedial work and redrilling will be started at 5,486 feet. No. 1 Dixon was doing 10 bbls. of oil and about 75 bbls. of water daily.

Santa Maria

Union Oil Co. No. 1 Battles in the Santa Maria Valley area, which was brought in pumping 450 bbls. per day from 2,738 feet a few weeks ago, is now flowing 1,460 bbls. per day. The company is making rapid progress with No. 1 Bettiga in this field and should have it tanking oil within another fortnight. The Union has not yet started work on the projected pipe line out of this field but should get under way in the near future. R. R. Bush Oil Co. is rigging up rotary on the Brown property south of Union No. 1 Adam and should be spudded in soon.

Shell added another well to its list in the Capitan field of Santa Barbara County by completing No. 1-15 Covarrubias, flowing 210 bbls. of clean 22.1 gravity oil per day from 1,739 feet. It was finished in the Vaqueros formation but No. 1-17 Covarrubias, now rotating below 2,000 feet, is scheduled for completion in the underlying Sespe. General Petroleum Corp. spudded in No. 16 Erburu in section 32-5-30. Operators in this field, due to the shallow pay depth, are using small steel derricks. Associated Oil Co. No. 99 Lloyd in the Ventura Avenue field was good for only 273 bbls. of 27.1 gravity oil per day on the beam following completion at 7,050 feet, but may show an increase if the water problem clears up within the next few days. In the Elwood field, Barnsdall Oil Co. and Rio Grande Oil Co. recompleted No. 8-A on tideland permit No. 88 and returned it to production, doing 460 bbls. of 32.3 gravity oil per day after the hole had been deepened to the Sespe zone at 3,847 feet and plugged back to 3,786 feet.

Seal Beach

Associated Oil Co. No. 18 Hellman in the Seal Beach field, Los Angeles Basin, was good for 480 bbls. of 32.3 gravity oil per day on gas lift following completion at 6,605 feet. West American Oil Co., which recently picked up a promising oil sand in a wildcat between the Dominguez and Long Beach fields, squeezed away six sacks of cement under a pressure of 2,400 pounds through perforations in the 5¾-inch casing at 8,475-85 feet and after subsequently cleaning out to bottom, 9,001 feet, started to wash out the hole for an early test. Ohio Oil Co. should be in a position to give the El Segundo field a chance to show whether it has been underestimated as the company is rotating in No. 1 Gough below 6,900 feet. This well is located in section 7-3-14 about 2,500 feet away from the Republic Petroleum's discovery well. George Terry has filed an abandonment notice on his Sunset Beach wildcat in section 17-5-11 despite the fact that some favorable showings were logged higher up in the hole. Shell Oil Co. recently spudded in No. 19 Orange in the Brea Olinda field of Los Angeles Basin. This well is scheduled for completion in the usual productive horizon but may be converted into a deep test.

Republic Petroleum Co. has rig up for its initial well to be drilled in the eastern extension of the Montebello field of Los Angeles Basin, but actual drilling will not get under way for another week as the company is awaiting the outcome of a test that should go a long way toward indicating what it can expect on the fee lease near Durfee Road and Syphon Road. No. 7 P.&B. of St. Helens Petroleum finished last week flowing 2,200 bbls. per day but built up to 2,700 bbls. per day within a few days, is now flowing 1,400 bbls. per day, which reflects a drop in reservoir pressure and use of a smaller flow bean. Standard Oil Co. No. 88 Baldwin, a deep test in the older section of the Montebello field, has reached 8,900 feet with nothing showing. The lower Miocene, Oligocene or Eocene may be productive if these rocks are present.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, July 20.—A decided lull in completions was noticeable in the Central West fields for the past seven days. Seven gas wells and one dry hole were completed in the Central Ohio field, one oil producer in the Lima field and five dry holes and one small oil well in the Indiana field. The small producer in the Lima field was the C. K. Rodgers No. 2 Shipe & Perry, section 3, Blanchard Township, Putnam County. This well, besides a fair showing of gas, had an initial of 8 bbls. the first 24 hours. It was drilled to a total depth of 1,350 feet where pay was struck in the Trenton. The same operator's No. 3 is spudding on the same farm. In the same county and township, section 13, L. O'Conner No. 1 is spudding on the H. Tobias lease, where location was staked a few days ago. In Sandusky County, Rice Township, Montgomery & Co. No. 2, on the B. F. Hetrick property, was plugged back to the Trenton and the bridge gave away. They are going to put in a new bridge and run the tubing.

CENTRAL OHIO FIELD

The largest commercial gas well completed in this field for some time was brought in by East Ohio Gas Co. in section 9, Jackson Township, Stark County, on the John and L. Heppe farm. Pay was struck at 4,282 feet in the Clinton sand and a rock pressure of 1,040 pounds was reported. In the same county, section 11, Perry Township, Lyons & Co. have moved tools onto the Michael Triner property. In section 26, same township, East Ohio Gas Co. staked location on the Ed A. Kocher farm. In section 3, Jackson Township, Stark County, Ohio Fuel Gas Co. No. 4, on the A. J. Stroner farm, was a commercial gas well, with a total depth of 4,289 feet. The same company has a rig up for No. 5, same farm.

In Summitt County, section 13, Twinsboro Township, Brooks Johnson No. 3, on the Robert Gillie property, was a small gas well. The Berea at 135-70 feet was dry, and gas was found in the shale at 286-573 feet. In section 36, Franklin Township, East Ohio No. 1, on the John Kauffman property, was a good commercial gas well. Pay was found in Clinton at 3,989-4,010 feet. In section 19, Green Township, East Ohio Gas Co. No. 1 Nelson Cormany is shut down at 700 feet for casing.

Preston Oil Co. staked two locations in Coshocton County. The first is in section 16, Perry Township, on the Grace McCament farm and the other in section 17, Perry Township, on the Cary D. Harris property. In Perry Township, Murphy & Co. No. 4 John S. Rine made 12 bbls. of oil naturally at 3,188 feet. It will be shot.

In Lorain County, section 14, Carlisle Township, Ohio Fuel Gas Co. No. 1 A. R. Webber, after being drilled 6 feet deeper, was a commercial gas well. The same company staked location on the Myrtle Sandrock property in section 36, Ridgeville Township. In Lot 56, Grafton Township, Lorain County, Ohio Fuel Gas Co. made location on the H. B. Belden farm.

Ohio Fuel Gas Co. completed a commercial gas well on the Thomas Hughes farm in section 34, Ripley Township, Holmes County, at a total depth of 3,373 feet. Same company has a rig on the Sam E. Nussbaum property, section 5, Paint Township, Wayne County. In sections 13 and 14, Hanover Township, Ashland County, Ohio Fuel Gas Co. staked location on the J. M. Dorr property.

In Perry County, section 3, Hopewell Township, Hopewell Gas & Fuel Co. No. 1 on the John L. From farm, had a small show of gas, but was plugged and abandoned after being shot. In section 25, Coal Township, Kachelmacher estate No. 14 Hemlock Coal Co. property, is drilling in and has a fine show of oil. In the same county, section 17, Clayton Township, Ohio Fuel Gas Co. staked a location on the William Griffith property.

Bell & Co. No. 2 E. A. Foltz, section 2, Washington Township, Hocking County, was a dry hole and has been abandoned. It was drilled through the Clinton 2,792-2,817 feet without a show of oil or gas to a total depth of 2,823 feet.

In Fairfield County, section 5, Pleasant Township, City Natural Gas Works No. 1 on the Laura Wagner farm has a nice showing of gas 22 feet into the Clinton sand.

INDIANA FIELD

A small oil well was completed by Randall & Stroble in section 14, Logan Township, Pike County, on their Joseph and Naomi Carr lease. In the same county, section 32, Clay Township, Harry Hanson is drilling No. 1 on the Jesse Campbell property.

In Posey County, Marhill Oil & Gas Co. No. 1 in the E half NE quarter section 36, has all indications of being a gasser.

Joseph Gardner No. 1 on the Leo Cassidy farm, section 25, Clark Township, Perry County, was a dry hole with a total depth of 187 feet. In the same county and township, section 20, McGrain Oil & Gas Corp. No. 1, on the John F. Farley property, was also a "duster"; total depth 729 feet. Zoercher & Dice No. 12 on the Alvin Franchville farm, in section 30, same county and township, is down 250 feet. Same county and township, section 8, Haney & Hollingsworth No. 3 Norman Jarbo is down 775 feet. Same operators, section 7, same county and township, are down 250 feet on their No. 2 Edward Hug; section 8, same county and township, on the Kate Hug property, Haney & Hollingsworth No. 1 was a dry hole with a total depth of 521 feet. Joe Gardner No. 1, section 27, Clark Township, Perry County, on the Frank Lanman farm, is also dry. The same operator is drilling No. 3 on the Lanman farm. A. B. Bement No. 4, on the Harry Hartwick lease, section 24, same county, township, was dry hole.

CALIFORNIA OIL FIELD DEVELOPMENT

	New Rigs Up	Active Drilling	Producers Completed	Daily Initial Output	Active Producing	Ab'don'd Drillers	Wells Producers
Group No. 1—							
Belridge-North	..	7	1	3,670	30	..	..
Belridge-South	..	..	..	.....	184	..	..
Coalinga	..	3	..	.....	913	1	2
Edison	6	11	3	167	73	1	..
Elk Hills	..	..	..	.....	163	..	..
Fruitvale	4	6	2	536	94	2	..
Kern River	5	16	6	1,161	1,331	1	..
Kettleman Middle dome	1	..	..	.....	3	1	..
Kettleman North dome	5	23	10	15,226	126	..	..
Lost Hills	1	2	..	.....	273	2	1
McKittrick	2	3	..	.....	123	..	..
Midway-Sunset	11	14	5	752	2,285	1	3
Mountain View	3	11	6	6,015	145	..	2
Mount Poso	6	11	..	.....	198	5	..
Round Mountain	9	10	6	2,843	85	..	..
Wheeler Ridge	..	..	..	.....	26	..	1
Group No. 2—							
Capitan	2	3	3	519	25	..	..
Elwood	..	1	..	.....	67	..	..
Rincon	..	..	1	95	31	..	..
San Miguelito	..	1	..	.....	6	..	..
Santa Barbara	..	1	..	.....	59	..	1
Santa Maria	4	6	..	.....	189	1	..
Summerland	..	..	..	.....	19	..	..
Ventura Avenue	1	5	2	208	219	..	..
Ventura-Newhall	2	18	..	.....	554	2	..
Watsonville	..	..	..	.....	7	..	..
Group No. 3—							
Brea-Olinda	..	..	..	.....	338	..	..
Coyote-East	..	..	..	.....	71	..	..
Coyote-West	..	..	1	946	40	..	..
Dominguez	4	6	2	1,345	111	..	..
El Segundo	1	2	1	400	2	..	..
Huntington Beach	1	2	..	.....	503	..	..
Inglewood	4	4	1	1,126	210	..	..
Lawndale	..	..	..	.....	6	1	..
Long Beach	3	6	2	290	1,234	3	1
Los Angeles-Salt Lake	..	..	..	.....	123	..	..
Montebello	2	8	6	3,068	186	..	..
Newport	..	1	..	.....	....	..	..
Playa Del Rey	..	2	1	255	207	2	2
Potrero	..	..	..	.....	11	..	..
Richfield	2	4	..	.....	243	..	..
Rosecrans	1	2	..	.....	74	..	..
Santa Fe Springs	1	6	..	.....	587	1	3
Seal Beach	..	3	..	.....	109	..	..
Torrance	2	15	5	1,100	466	..	1
Whittier	..	..	..	.....	162	..	1
Miscellaneous Drilling	4	41	..	.....	....	12	..
Group No. 4 Gas Fields—							
Buena Vista Lake	..	1	..	.....	....	..	..
Buttonwillow	..	..	..	.....	1	..	..
Delano	..	..	..	.....	....	..	..
Dudley Ridge	..	1	..	.....	2	..	..
Goleta	..	..	..	.....	..	..	..
Semi-Tropic	..	..	..	.....	....	1	..
Tracy	..	..	..	.....	1	..	..
May	87	250	64	39,721	11,913	36	20
April	90	215	55	27,338	12,041	24	39
Increase	3‡	35	9	12,383	128‡	12	19‡
Average for year 1935	86	243	64	55,082	12,136	29	17
Average for year 1934	53	196	38	47,553	11,053	21	17
Average for year 1933	30	124	21	22,842	9,199	14	18

‡Decrease.

CALIFORNIA CRUDE PETROLEUM PRODUCTION

(Figures of Production and Stocks are in Barrels of 42 Gals.)

	Total Production May	DAILY AVERAGE May, 1936	Apr., 1936	May, 1935
Group No.1—				
Belridge-North	267,887	8,641	8,341	5,260
Belridge-South	66,294	2,139	2,125	2,818
Coalinga	503,716	16,249	16,759	18,897
Edison	166,608	5,374	4,897	1,241
Elk Hills	294,884	9,512	9,728	7,441
Fruitvale	231,055	7,453	7,209	3,628
Kern River	424,875	13,707	13,922	10,853
Kettleman Middle dome	14,136	456	484	.....
Kettleman North dome	2,421,181	78,103	77,996	54,017
Lost Hills	105,562	3,405	3,370	4,915
McKittrick	51,990	1,677	1,677	3,837
Midway-Sunset	1,803,950	58,192	55,725	51,872
Mountain View	868,116	28,004	26,557	10,447
Mount Poso	588,540	18,985	19,552	13,779
Round Mountain	327,576	10,567	9,716	5,046
Wheeler Ridge	10,809	349	356	429
Group No. 2—				
Capitan	44,152	1,424	1,412	1,248
Elwood	399,475	12,886	12,495	11,763
Rincon	67,154	2,166	2,015	2,028
San Miguelito	45,095	1,455	1,415	726
Santa Barbara	49,558	1,599	1,689	3,783
Santa Maria	125,132	4,036	4,062	4,257
Summerland	1,117	36	37	61
Ventura Avenue	1,049,689	33,861	33,861	30,563
Ventura-Newhall	140,502	4,532	4,433	3,767
Watsonville	1,860	60	60	60
Group No. 3—				
Brea-Olinda	248,189	8,006	7,995	9,898
Coyote-East	70,925	2,288	2,198	2,665
Coyote-West	252,885	8,158	8,138	9,600
Dominguez	801,961	25,870	26,482	20,740
El Segundo	10,058	324	149	.....
Huntington Beach	1,099,416	35,464	35,716	38,363
Inglewood	367,871	11,867	11,637	11,292
Lawndale	2,850	92	61	126
Long Beach	2,096,479	67,628	69,097	65,391
Los Angeles-Salt Lake	25,715	830	814	812
Montebello	250,714	8,088	7,563	5,580
Playa Del Rey	424,178	13,683	13,538	13,393
Potrero	9,862	318	329	405
Richfield	191,754	6,186	6,475	7,591
Rosecrans	62,160	2,005	2,055	2,713
Santa Fe Springs	1,358,216	43,813	43,105	36,598
Seal Beach	291,757	9,412	9,747	9,378
Torrance	210,875	6,802	6,639	6,777
Whittier	29,179	941	980	952
Total May	17,875,938	576,643	572,671	494,910
Total April	17,180,120	572,671		
Increase	695,818	3,972		

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THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

Rocky Mountain Area

CUT BANK FEELS EFFECT OF NEW PRODUCER IN ALBERTA

By
T. R. INGRAM

DENVER, Colo., July 20.—Continental Oil Co.'s test in the Buckingham area, Weld County, Colorado, had slight oil and gas saturation in the Muddy, but will continue on down through the Dakotas to the Sundance. Rumors persist that the Indian Territory Illuminating Oil Co.'s Beecher Island wildcat is unable to make much progress on account of trouble with gas.

California Co.'s No. 1 Holst, discovery well on the Quealy dome, Albany County, Wyoming, was deepened 10 feet and recompleted for 450 bbls. naturally. Ohio Oil Co. released location for another test in the Big Hollow district in Albany County, and Amerada Petroleum Corp. is preparing to drill in Laramie County. Union Oil Co. of California's Sundance test on the Dutton Creek dome in Carbon County had water in the Sundance. Two wells were completed in Lance Creek by Continental Oil Co. for 935 and 1,869 bbls., respectively.

Three wildcats in Nebraska were reported getting under way.

The Toronto Pipe Line Co. has resumed proration of its purchases in the Cut Bank field in Montana. Four completions, one of which was dry and abandoned, were reported in Cut Bank.

NEW MEXICO

The largest of the four new producers completed the past week in the Monument area, southeastern New Mexico, was the Amerada Petroleum Corp. No. 3 Phillips, C SW NE section 1-20-36. It flowed 3,288 bbls. of oil naturally through 1-inch tubing choke in 24 hours, with gas gauging 1,250,000 feet. It had first showing of oil and gas at 2,660-63 feet, but pay was had at 3,792 to 3,892 feet, total depth. Same operator's No. 2 State "P," C SW SW section 29-19-37, had pay at 3,810-3,935 feet, total depth, was acidized and flowed 1,272 bbls. through 1-inch tubing choke in the first 24 hours. Gas measured 618,000 feet. Same operator's No. 2 Lambert, C SW NE section 6-20-37, flowed 1,560 bbls. naturally through 1-inch tubing choke in 24 hours and was completed at 3,905 feet in pay topped at 3,816 feet. It produced 4,000,000 feet of gas. Empire Oil & Refining Co. No. 4 State "E," SW cor. section 30-19-37, had pay at 3,815-3,940 feet, total depth. It flowed 2,112 bbls. of oil naturally in 24 hours, with 1,500,000 feet of gas.

In the Eunice area, Continental Oil Co. No. 5-A-18 Lockhart, SE SE SW section 18-21-36, was completed at 3,935 feet, total depth, and flowed 1,800 bbls. naturally in 24 hours through three-fourths inch tubing choke. Gas gauged 823,000 feet. Top of pay was 3,844 feet.

In the Cooper pool, Southern Oil Corp. No. 1 Vaughan, C SW SE section 15-24-36, flowed 648 bbls. through three-fourths inch tubing choke in the first 24 hours after acidizing and was completed in pay at 3,566-3,609 feet, total depth. It also produced 1,000,000 feet of gas.

Gulf Oil Corp. No. 1 J. A. Stuart, C SW NE section 10-25-37, in the Jal sand area, had pay at 3,332-3,431 feet, total depth, completed. It flowed 217 bbls. of oil naturally through tubing in 24 hours and produced 3,500,000 feet of gas.

One small producer was completed in the Artesia pool, Eddy County. It was Red Lakes Oil Co. No. 7 State, NW NW SE section 22-17-28. It had oil pay at 1,936-57 feet, and flowed 25 bbls. of oil through casing in the first 24 hours after a shot.

Lea County—Miscellaneous

Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. Drlg. 3,729 ft.
Rowan et al No. 1 Mattern, C SW SE sec. 7-22-37. T.D. 3,727 ft.; est. 200 bbls. fluid, 5 per cent oil, and 1,000,000 ft. gas.
C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. Wildcat; T.D. 4,075 ft.; est. 75 bbls. fluid in 5 hrs.; scum of oil; 5,000,000 ft. gas.
Gulf Oil Corp. No. 2 N. F. Humphreys, C NE NW sec. 25-25-36. T.D. 3,350 ft.; flowed 650 bbls. fluid in 24 hrs., 50 per cent oil; shut in.
Gulf Oil Corp. No. 1 L. M. Buffington, C NW SW sec. 13-25-37. T.D. 3,063 ft.; waiting on machine and rotary.
Sun Oil Co. No. 1 Lanehart, C SE SE sec. 20-25-37. T.D. 2,792 ft.; plugged back to 2,357 ft.
Magnolia Pet. Co. No. 1 E. O. Carson, C NW SW sec. 28-21-37. Drlg. 3,726 ft.
Skelly Oil Co. No. 1 Stuart, C NE NW sec. 15-25-37. T.D. 3,150 ft.; R.U.S.T.
Byrd-Frost, Inc., No. 1-A-1 Wells, C NW SW sec. 1-25-36. T.D. 3,462 ft.; tubing to test.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. Drlg. 1,060 ft.
Texas Co. No. 1 E. Fanning, C SE NE sec. 4-24-37. Drlg. 3,350 ft.
Jal Natural Gas Co. No. 1 Bates, C NW SW sec. 20-25-37. Drlg. 1,328 ft.
Harry Leonard No. 2 Lanehart, C SE NW sec. 21-25-37. Drlg. 2,912 ft.
Culberson & Irwin No. 1 Eaves, C SW NW sec. 18-21-33. T.D. 2,190 ft.; fishing.
Humble O. & R. Co. No. 1 H. E. Boyd, C NW SE sec. 35-22-37. Drlg. 1,515 ft.
Argo Royalty Co. No. 1 Lanehart, SW SE NE sec. 21-25-37. Cellar and pits.
Magnolia Pet. Co. No. 1 Scharbauer-Edison, C NW NE sec. 29-16-35. Loc.
Plains Prod. Co. No. 1 Knight, C NE SE sec. 21-24-37. Drlg. 550 ft.
Plains Prod. Co. and Culberson & Irwin No. 2 Knight, C NE SW sec. 14-24-32. Cellar and pits.
Plains Prod. Co. and Culberson & Irwin No. 1 Williams, C SW NE sec. 34-24-37. Drlg. 715 ft.
Republic Prod. Co. No. 2 Crosby, NW NW SW sec. 28-25-37. Loc.
Oilwell Drlg. Co. et al No. 1 L. L. Clardy, C SE SE sec. 13-16-36. Wildcat; loc.
Emperor Oil Co. No. 1 State, C SW SW sec. 5-21-35. Rigging up machine.
Humble O. & R. Co. No. 3 State-Aggies, C NW NW sec. 21-20-37; wildcat. Spudded.

Hobbs Area

National Securities Oil Corp. No. 1 Linam, NE SE SW sec. 33-18-37; wildcat. Old well P.B. from 4,238 to 4,228 ft.; swbd. sulfur wtr.; no oil; S.D. for orders.

Sims Area

Skelly Oil Co. No. 1 Ella Simms, C NW SE sec. 3-23-37. Drlg. 3,491 ft.
Humble O. & R. Co. No. 1 W. B. Farrell, C SW SE sec. 22-22-37. T.D. 3,705 ft.; cleaning out at 3,684 ft.
Tide Water Oil Co. No. 1 A. Waldon, C SE NE sec. 21-22-37. T.D. 3,620 ft.; cleaning out 3,595 ft.; est. 10 bbls. per hour; testing.
Magnolia Pet. Co. No. 1 Cary, C NE SE sec. 21-22-37. T.D. 3,550 ft.; flowed 53 bbls. dly.; testing.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.
Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. Location.
Continental Oil Co. No. 1-A-21 Elliott, C SE SE sec. 21-22-7. Cellar and pits.
Skelly Oil Co. No. 2 J. V. Baker, C NW NW sec. 27-22-37. T.D. 3,596 ft.; flowed 109 bbls. in 24 hrs.; to shoot.
Gulf Oil Corp. No. 1 F. C. King, C SW NW sec. 5-23-37. T.D. 3,645 ft.; set 7-in. csg.
Penrose & Rowan No. 4 Cary, C SW NW sec. 22-22-37. Drlg. 2,950 ft.
Samedan Oil Co. No. 1 Hughes, C NE SW sec. 4-23-37. Rigging up machine.
Ohio Oil Co. No. 1 Walden, C NE NE sec. 21-22-37. Rigging up machine.

Eddy County

Etz Bros. No. 2 State, C NW SW NE sec. 16-17-30. Drlg. 3,276 ft.; preparing to swab.
Tignor, Etz & Keys No. 4 Keys "A," C SW SE sec. 10-17-28. T.D. 1,500 ft.; set 6⅝-in. csg.
Grayburg Oil Co. No. 7 Burch, C NW NE sec. 19-17-30. Drlg. 2,120 ft.
Carper et al No. 1 Gissler "B," NW NE NW sec. 23-17-30. Drlg. 1,518 ft.
Hammond et al No. 1 State, SW SE SW sec. 15-17-28. Rigging up machine.
Pecos Valley Gas Co. No. 1 Andrews-State, C SW SW sec. 2-17-28. Drlg. 710 ft.
Republic Prod. Co. No. 6 Russell, SW NE NW sec. 18-17-31. Location.
Flynn, Welch & Yates No. 74 State, C S½ NE SW sec. 27-18-28. Rigging up machine.
D. & B. Oil Co. No. 2 Jenkins, NW SE NW sec. 20-17-30. Moving in machine.

Harding County

Kahay No. 1 Dae Daca, C sec. 19-20n-31e. T.D. 1,511 ft.; setting 5 3/16-in. csg.
Clyde B. Neill No. 1 Foster, C NW SW sec. 27-21-30. Drlg. 700 ft.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 1,051 ft. in broken lime; S.D.

Chaves County

Comanche Drlg. Co. No. 2 Sloop & Purcell, C NE NE sec. 15-11-26. T.D. 1,105 ft.; standardizing.

McKinley County

Claude Walker No. 2 fee, sec. 20-20n-9w. Drlg. at 100 ft.

Roosevelt County

Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Moving in material.

San Juan County

Continental Oil Co. No. 55 Rattlesnake, NE SE NE sec. 2-29n-19w. Spudded.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,497 ft.; flowed 82 bbls. oil in 24 hrs., 200 bbls. water per hour; P.B. to 3,445 ft.; drlg. plug.
Skelly Oil Co. No. 5 Coates, C NE SE sec. 3-24-36. T.D. 3,581 ft.; est. 15 bbls. daily; testing.

Eunice Area

Gulf Oil Corp. No. 8 Bell-Remsey-State, C NW NW sec. 4-21-36. T.D. 3,890 ft.; flowed 113 bbls. in 24 hrs. through tubing.
Empire G. & F. Co. No. 1 State "D," C SE NE sec. 32-21-36, ⅝ mi. N part of No. 157 lse. T.D. 3,941 ft.; cleaning out 3,876 ft.; 3,000 ft. oil in hole.
General Crude Oil Co. No. 2 State "E," C NE SW sec. 32-21-36. T.D. 3,966 ft.; flowed 25 bbls. oil and 15 bbls. water; testing.
Continental Oil Co. No. 11-B-4 Meyer, C SE SE sec. 4-21-36. Drlg. 436 ft.
Samedan Oil Co. No. 1 Marshall, C SW NW sec. 12-21-36. T.D. 3,861 ft.; cleaning out at 3,823 ft.
Devonian Oil Co. No. 5 State-Heasley, C NW SW sec. 5-21-36. Drlg. 1,050 ft.
Devonian Oil Co. No. 6 State-Heasley, C NE SW sec. 5-21-36. Loc.
Gulf Oil Corp. No. 2 Collins, C NE NW sec. 14-21-36. T.D. 1,430 ft.; plugged back to 360 ft.; W.O.C.
Humble O. & R. Co. No. 2 State-Aggies, C SW SW sec. 31-20-37. Cellar.
Gulf Oil Corp. No. 10 Bell-Ramsey-State, C NW SW sec. 4-21-36. Drlg. 3,712 ft.
Atlantic Oil Prod. Co. No. 2 State "K," C NE SW sec. 6-21-36. Drlg. 3,820 ft.
Gulf Oil Corp. No. 3 Houston, C SW SE sec. 7-21-36. Drlg. 3,550 ft.
Gulf Oil Corp. No. 1 Campbell, C SE SW sec. 7-21-36. Drlg. 2,588 ft.
Humble O. & R. Co. No. 6 Adkins, C NW NW sec 10-21-36. T.D. 3,774 ft.; fishing.
Atlantic Oil Prod. Co. No. 1 State "L," C SW NW sec. 11-21-36. Drlg. 3,877 ft.
Mid-Continent Pet. Corp. No. 1 Marshall, SW SE SE sec. 11-21-36. T.D. 3,858 ft.; swabbing and testing.
Gulf Oil Corp. No. 3 Collins, C SW NE sec. 14-21-36. Rig.
Gulf Oil Corp. No. 3 Bell-State "C," C NE NW sec. 15-21-36. Rig.
Gulf Oil Corp. No. 2 Janda "C," C SW SW sec. 15-21-36. T.D. 3,805 ft.; set 5½-in. csg.
Gulf Oil Corp. No. 8 Arnott-Ramsey "C," C SW SE sec. 21-21-36. Drlg. 3,073 ft.
Skelly Oil Co. and Humble O. & R. Co. No 1 Adkins, C NE NW sec. 10-21-36. T.D. 1,440 ft.; set 9⅝-in. csg.
Continental Oil Co. No. 2-B-14 Lockhart, C NW NW sec. 14-21-36. Drlg. at 1,044 ft.
Continental Oil Co. No. 1-D-15 State, C SE NE sec. 15-21-36. Drlg. 3,819 ft.
Gulf Oil Corp. No. 5 Orcutt, C NW NW sec. 5-21-36. Bldg. rig.
Shell Pet. Corp. No. 2 State "E," C NW NE sec. 6-21-36. Drlg. 780 ft.
Atlantic Oil Prod. Co. and Tide Water Oil Co. No. 1 H. L. Houston, NE NW NW sec. 7-21-36. Drlg. 1,473 ft.
Gulf Oil Corp. No. 9 Arnott-Ramsey "C," C NE NE sec. 21-21-36. Rigging up rotary.
Atlantic Oil Prod. Co. No. 2 State "L," C SE NW sec. 22-21-36. T.D. 292 ft.; set 12½-in. csg.
Landreth Prod. Co. No. 1 State "D," C NW NW sec. 22-21-36. T.D. 323 ft.; set 12½-in. csg.
Continental Oil Co. No. 2-D-15 State, C NW NE sec. 15-21-36. Rigging up rotary.
Humble O. & R. Co. No. 3 Knox, C SE NE sec. 10-21-36. T.D. 230 ft.; set 10¾-in. csg.
Empire O. & R. Co. No. 2 Closson "A," C NE SE sec. 6-22-36. Moving in rig.
Continental Oil Co. No. 13-B-4 Meyer, C NW NE sec. 4-21-36. Bldg. rig.
Continental Oil Co. No. 14-B-4 Meyer, C SW SE sec. 4-21-36. Loc.
Gulf Oil Corp. No. 1 H. Leonard, C NW SW sec. 22-21-36. Loc.

Monument Area

Anderson-Prichard Oil Corp. No. 3 Britt, SE SW NE sec. 7-20-37. T.D. 3,806 ft.; set 7-in. csg.
Anderson-Prichard Oil Corp. No. 2 Britt "A," C NE SW sec. 6-20-37. Rig.
Skelly Oil Co. No. 1 State "E," C SE NE sec. 29-19-37. T.D. 3,960 ft.; acidized; flowed 12 bbls. per hour.
Gulf Oil Corp. No. 2 Mathews, C NW SE sec. 6-20-37. T.D. 3,885 ft.; acidized; flowed 108 bbls. in 6 hrs.; swabbing in.
Anderson-Prichard Oil Corp. No. 4 Britt, C NW NE sec. 7-20-37. T.D. 3,877 ft.; est. 75 bbls. per hour; testing.
Gulf Oil Corp. No. 1 Ketter, C SW SE sec. 20-19-37. Rig.
Tide Water Oil Co. No. 2 State "F," C NE NW sec. 20-19-37. T.D. 4,026 ft.; swabbing to test.
Gulf Oil Corp. No. 1 Culp "B," NW NW SE sec. 31-19-37. Rig.
Gulf Oil Corp. No. 1 Phillips, NW NW NE sec. 31-19-37. T.D. 3,915 ft.; flowed 223 bbls. in 3 hrs. through tubing.
Tide Water Oil Co. No. 1 State "H," C NW SW sec. 32-19-37. T.D. 3,960 ft.; acidizing.
Shell Pet. Corp. No. 1 Cooper, NW NW NE sec. 5-20-37. T.D. 3,903 ft.; flowed 60 bbls. net in 1½ hrs.
Texas Co. No. 3 State-Aggies, NE cor. sec. 20-20-37. Drlg. 3,450 ft.
Gulf Oil Corp. No. 5 Graham-State "C," C NW NE sec. 25-19-36. Rigging up rotary.
Amerada Pet. Corp. No. 2 State "S," C SW SW sec. 2-20-36. T.D. 3,820 ft.; set 6⅝-in. csg.
Continental Oil Co. No. 1-A-17 State, C SW SW sec. 17-19-37. T.D. 3,872 ft.; set 5½-in. csg.
Shell Pet. Corp. No. 1 State "F," C NE SE sec. 29-19-37. T.D. 3,943 ft.; headed 75 bbls. in 6½ hrs.; testing.
Amerada Pet. Corp. No. 1 Phillips "A," SW SW NE sec. 31-19-37. Drlg. 1,826 ft.
Amerada Pet. Corp. No. 1 State "U," C SW NW sec. 32-19-37. Cellar.
Amerada Pet. Corp. No. 1 Gaither, C NE SE sec. 34-19-36. T.D. 3,950 ft.; flowed 8 bbls. per hour.

Sun Oil Co. No. 2 State, C SE NE sec. 25-19-36. Rigging up rotary.
Ohio Oil Co. No. 1 Barber, C SW SW sec. 32-19-37. Rigging up rotary.
Shell Pet. Corp. No. 1 State "G," SW cor. sec. 16-20-37. Rig.
Skelly Oil Co. No. 1 State "F," SE cor. sec. 17-20-37. Rig.
Shell Pet. Corp. No. 3 State "B," C NE NW sec. 36-19-36. Drlg. 153 ft.
Texas Co. No. 1 J. W. Cooper, C NW NE sec. 5-20-37. Rigging up rotary.
Amerada Pet. Corp. No. 2 State "T," C NE SW sec. 25-19-36. T.D. 225 ft.; set 12⅛-in. csg.
Texas Co. No. 1 Weir, C SW NW sec. 25-19-36. Rigging up rotary.
Amerada Pet. Corp. No. 1 State "V," NE cor. sec. 36-19-36. Rigging up rotary.
Continental Oil Co. No. 3-A-3 Reed, C NE SE sec. 3-20-36. Bldg. rig.
Oilwell Drlg. Co. No. 1 Klingsmith, C SE SE sec. 20-19-37. T.D. 127 ft.; set 12½-in. csg.
Texas Co. No. 3 Mattern, C SE SW sec. 20-19-37. Rig.
Ohio Oil Co. No. 2 Barber, C NE NW sec. 5-20-37. Rigging up rotary.
Gulf Oil Corp. No. 2 Phillips, C NE NE sec. 31-19-37. Cellar and pits.
Tide Water Oil Co. No. 2 State "H," C NE SW sec. 32-19-37. Location.
Gulf Oil Corp. No. 3 Mathews, C SE SE sec. 6-20-37. Cellar and pits.
Tide Water Oil Co. No. 1 Anderson, C NW SE sec. 8-20-37. Location.
Gulf Oil Corp. No. 6 Graham-State "C," C SW SE sec. 25-19-36. Cellar and pits.
Gulf Oil Corp. No. 1 L. M. Martin, C NE SE sec. 25-19-36. Cellar and pits.
Amerada Pet. Corp. No. 6 Weir, C NE NW sec. 35-19-36. Rigging up rotary.
Amerada Pet. Corp. No. 2 State "V," C NW NE sec. 36-19-36. Cellar.
Continental Oil Corp. No. 1 Sanderson Permit, C NE SE sec. 11-20-36. Location.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e, S.D. 1,750 ft.; installing heavier power.

Guadalupe County

Anton Chico Dev. Co. No. 2 fee, NW NE SW sec. 20-9n-17e. T.D. 804 ft.; fsg. tools.
Ralph Knight et al No. 1 Anton Chico, SW sec. 33-9n-16e. Spd. and S.D.

McKinley County

Al Gibbons No. 1 fee, SW SW SW sec. 22-20n-9w. T.D. 550 ft.; wtr. in sd.
S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,490 ft.; rmg. at 900 ft.
Foster & Clark No. 1 R. R. land, NE NE NW sec. 29-20n-9w. Lost hole at 75 ft.; skdg. rig.

Rio Arriba County

Larrazola & Turner No. 1 Gonzales, SE SW SE sec. 24-32n-1e. (Formerly carried in Colorado.)

San Juan County

Continental Oil Co. No. 55 Tribal, NE SE NE sec. 2-29n-19w. Drlg. 728 ft.; S.G. in sd. at 727-28 ft.
Atchison & Galloway No. 1 Patd., C SE SE sec. 19-29n-11w. Drlg. 200 ft.
W. L. Hair No. 1 Hair, NE NW NE sec. 23-29n-11w. S.D. 900 ft.
Kutz Canon O. & G. Co. No. 1 Day, SW SW SW sec. 20-28-10w. T.D. 4,400 ft.; pulled 4½-in.; C.O. 3,900 ft.
Nick Spatter No. 1 fee, C NE SW sec. 32-21-11w. S.D. 1,70 ft.; T.A.
Southern Union Gas Co. No. 6 Government, C NW NW sec. 19-28-10w. Comp. at 2,065 ft. as gas well; not tested.

Torrance County

45 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e. Drlg. 2,023 ft. in blue L.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 State, NW SE SW sec. 16-3n-24e. Drlg. 921 ft.

Emery County

California Co. No. 1 Palm, Unit 1, C SW SW sec. 22-23s-11e. M.I.M.

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-35n-20e. Drlg. 1,046 ft.
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 32-22e. S.D. 4,880 ft. to resurvey; went through 2,400 ft. of Permian, Rico and Cutler beds.

Utah County

Diamond Oil Co. No. 4 Govt., CSL SE NW sec. 10-8s-5e. T.D. 3,956 ft.; cmtd. 3½-in. at 3,924 ft.; W.O.C.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. Drlg. 1,522 ft.

Washington County

Arrowhead Pet. Corp. No. 1-A, SE SW NE sec. 1-43s-15w. T.D. 2,477 ft.; trying to S.O.W.

Pipe line runs from Lea County, New Mexico, pools aggregated 2,044,378 bbls. of crude distributed as follows:

Hobbs	724,840
Cooper	224,901
Eunice	630,890
Jal	93,040
Lea	29,013
North Lea	1,729
Monument	339,965
Total	2,044,378

Pipe line runs from Lea County pools from the time of discovery to the end of June aggregated 94,050,311 bbls. This total includes 1,009,277 bbls. run from the Hobbs pool before proration went into effect. Total runs by pools, including production before proration went into effect, are as follows:

Hobbs	69,307,273
Cooper	4,609,277
Eunice	8,201,498
Jal	4,912,038
Lea	5,676,271
North Lea	77,214
Monument	1,264,740
Total	94,050,311

COLORADO

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66. Drlg. 1,600 ft.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. Cmtd. caves to bottom at 4,262 ft.; W.O. 6¼-in.

Archuleta County

William E. Hughes estate No. 8 Gramps, sec. 24-33n-2e (unsurveyed). Drlg. unreported depth.
William E. Hughes estate No. 9 Gramps, sec. 24-33n-2e (unsurveyed). Drlg. unreported depth.
Carl D. Linstrom No. 1 Crowley, SE SE SE sec. 3-22n-2e. R.U.
Maryott Drlg. Co. No. 1 Hollywood, SE SE SE sec. 15-34n-1w. Spd. June 24; test on 3,000-ac. blk. in Catchpole district.
Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e. S.D. 1,515 ft.; top Dakota series 1,415 ft.
Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW), sec. 24-33n-2e. Drlg. 1,020 ft. in sh.; 400 ft. oil in hole.
H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. Drlg. 1,167 ft.; will U.R. 6¼-in. for W.S.O.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovett, NW NW NW sec. 24-32s-48w. Drlg. 2,065 ft.

Boulder County

Boulder Prod. Dev. Co. No. 2 Maxwell, SW SW NE sec. 24-1n-71. Spd. July 16.

Costilla County

L. R. Lane No. 2, sec. 25-31s-74. S.D. 500 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. Drlg. and U.R. at 2,375 ft.

Jefferson County

Ruby Hill O. & G. Co. No. 1 Braden, SE SE SE sec. 24-4s-6w. S.D. 4,475 ft.; to finance.

Larimer County

Continental Oil Co. No. 8 Buckeye-U. P., C NE SW sec. 31-10n-68. Drlg. 3,661 ft. in sdy. sh.

La Plata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-35n-12w. S.D. 3,500 ft. for 6¼-in.

Las Animas County

Mountain State Oil Corp. No. 1 Nikola, C NE SE sec. 10-34n-62w. S.D. 1,813 ft.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17s-62. T.D. 2,050 ft.; fsg. bailer.

Moffat County

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. Drlg. 209 ft.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. T.D. 2,490 ft.; U.R. 6⅝-in.
Texas Co. No. 3 Iles Inv. Co., 200 ft. E of W. line, and 165 ft. S of N line, Lot 4, sec. 23-4s-92. T.D. 3,550 ft.; cmtd. 8⅝-in. at 2,925 ft. with 50 sacks.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. T.D. 1,449 ft.; R.U.R.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w. Contractor with Perry Coon to comp.; drld. by tools; making new hole below 3,705 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. M.I. Lee C. Moore 87-ft. steel derrick.
South Park Oil Co. No. 1 LeBert, NE NE NW sec. 21-11n-75w. Comp. W.W.; drlg. 380 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 4,586 ft.; shot 40 qts. at 4,522-32 ft.; after shot gauged 4,975,000 ft. gas, 925 pounds R.P. Rng. 4¾-in. to bottom.

Routt County

Mid-Colo. Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,910 ft.; renewing leases before drlg. into Sundance.

Washington County

I.T.I.O.-Carter-Foster Minerals Corp. No. 1 Vorce, C NE NE sec. 28-1s-49. Drlg. at approx. 4,100 ft.

Weld County

Continental Oil Co. No. 1 State Bank of Trenton, deep test in the Buckinham area, topped the Muddy at 6,605 feet and cored to 6,631 feet in black shale when it stopped to ream hole to 8⅝-inch. The Muddy sand showed some oil and gas saturation in the cores, but no test was made as the hole is to be carried down to the Sundance. The elevation is 4,809.6 feet. Same company's No. 1 Anthes, 3 miles to the east, abandoned in 1933, topped the Muddy at 6,523 feet. Elevation of the Anthes well is 4,829 feet.

Continental Oil Co. No. 2 Briggs, C NE SW sec. 13-6n-61. W.O. rig.
Continental Oil Co. No. 1 State Bank of Trenton, C SW NE sec. 21-8n-59w. T.D. 6,631 ft.; rmg.

Yuma County

Indian Territory Ill. Oil Co. No. 1 Strangways, C NW SW sec. 21-2s-43w. Operator not reporting depth; reported drlg. below 5,000 ft. Troubled with gas.

WYOMING

Albany County

California Co.'s No. 1 Holst, NE SE SE section 13-17n-77, Quealy dome, the discovery well which was completed in May, 1935, for an average of 600 bbls. a day in the Dakota, was deepened from 3,256 to 3,263 feet and recompleted for 450 bbls. per day, flowing naturally. It will not be carried to the Sundance as previously reported.

Ohio Oil Co. has made a location for its No. 1 Elizabeth Stiles, SW cor. section 12-15n-75, in the Big Hollow district, 7 miles west of Laramie. This is the third wildcat for the company in this district, its No. 1 Emery, C SE NE section 30-15-75, was abandoned last fall at 2,529 feet in the Tensleep, and its No. 2 Emery, NE SE NE section 18-15-75, being abandoned at 2,547 feet, cores at that depth showing a dip of 60 degrees.

Geo. D. Parkinson et al No. 1 George & Hunt, NW NE SE sec. 5-17-75w. T.D. 1,065 ft.; P.B. to 940 ft.; pulling 12½-in. and M.I. Rot.
California Co. No. 2 Wilson, SW SW SW sec. 18-17n-76. Drlg. 1,295 ft.
Ohio Oil Co. No. 1 Stiles, SW cor. sec. 12-15n-75. Loc. (first report).

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89. Drlg. 720 ft.
Joan Oil Co. No. 1 Howell, Lot 63 (NW SE NE) sec. 32-55n-97. Resuming at 1,190 ft.
Jerome Drumheller No. 2 Govt., NW NE SE sec. 17-49n-91. Drlg. 1,030 ft.
Montana-Wyoming Oil Co. No. 1-X Allen, Lot 52, sec. 18-56n-97w. Drlg. 3,100 ft. in r.b.
Ohio Oil Co. No. 2 State, NE cor. Lot 38, sec. 36-56n-97. R.U.
Ohio Oil Co. No. 1 Orson Vall, SW NW NE sec. 23-56n-97w. Drlg. 3,735 ft. in r.b.
Ohio Oil Co. No. 1 Robert Till, C SE SW sec. 24-56n-87w. T.D. 5,262 ft.; cmtd. 7-in. at 65,255 ft.; W.O.C.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-87w. T.D. 3,890 ft.; prep. to run 6¼-in.
Peter Evanoff et al No. 1 McAllister, NW NE SE sec. 3-55n-87. T.D. 2,720 ft.; prep. to lower 6¼-in.; show for 50 bbls. in second Frontier, 2,315-50; S.O. and 4,000,000 ft. gas at 2,590-2,620 ft.
Stock Oil Co. No. 1 Yates, CSL SW NE sec. 33-56n-87w. Drlg. 3,500 ft. in Amsden.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 24-56n-97w. Stdg. rigged (cor.).

Campbell County

G. J. Sherin and others No. 1 Rodes, NE SE SW section 24-49-74, on the Deitz structure, 15 miles southwest of Gillette, where the operator has 90,000 acres blocked, has commenced spudding. This is an important test in an enormous basin east of Salt Creek, north of Lance Creek and west of the Black Hills uplift, where there has been practically no wildcatting to reveal depths and sand conditions.

G. J. Sherin et al No. 1 Rodes, NE SE SW sec. 24-49n-74. Drlg. 72 ft.; had 50 ft. buff sandstone and 22 ft. blue sd.; 60 ft. of water.

Carbon County

Union Oil Co. of California's deep test of the Dutton Creek dome, which was looked upon as an almost sure shot in the Sundance, found water in that horizon at 5,334-5,450 feet, and water in 16 feet of the Jelm sand in the top of the red beds at 5,450-64 feet. The Lakota at 4,952-95 feet also had water. The Muddy at 4,788-4,817 feet had oil saturation. It is shut down for orders at 5,464 feet. The Mutual Oil Syndicate (S. H. Keoughan and others) have some oil production in the Muddy and gas in the Shannon sand on this dome. They entered into a contract with the Union company for a Sundance test, the agreement carrying the rights to oil and gas production below the Muddy.

Ohio Oil Co. No. 1 Baker, NW NW SW section 2-23-79, a wildcat on the Oil Springs dome, which was drilled to 1,498 feet in 1929 and suspended when rig burned down, was cleaned out to 1,499 feet and plugged back to the Frontier at 560 feet and completed for 60,000 feet of gas.

Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78. Cable tools on ground.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19n-83w. Crg. 3,342 ft. in sh.
Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w. Crg. 5,571 ft. in Sundance; good sat.
Ohio Oil Co. No. 7 Diamond Cattle, SW SW NW sec. 35-20n-78w. Drlg. 2,638 ft.
Ohio Oil Co. and California Co. No. 3 Union Pacific, C NE SE sec. 23-21n-79w. Drlg. 5,254 ft. in Morrison.
Ohio Oil Co. No. 4 State, SE NE NE sec. 34-20n-78. O.W.D.D. from 3,070 ft. to Sundance. R.U. (first report).
Ohio Oil Co. No. 2 Dixon, SE NE SE sec. 34-20n-78w. R.U. to deepen old well from 3,094 ft. to Sundance.
Sinclair-Wyoming Oil Co. No. 10 Govt., SW SE NW sec. 7-26-89w. Drlg. 1,220 ft.; 15½-in. at 370 ft.
Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w. S.D.O. 5,464 ft.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. Drlg. 2,590 (cor.) ft., believed through Greenhorn.
J. A. Olson No. 1 Reese, C NE SE sec. 10-32n-65w. M.I.M.

Fremont County

C. E. Nelson No. 1 Enos, Lot 7, sec. 27-3n-1w. Drlg. 836 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. T.D. 2,550 ft.; rng. 4¾-in.
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. Cg. 4,469 ft. in Frontier; no important shows.

Hot Springs County

California Exploration Co. No. 2 Govt., NW SW NW sec. 4-44-96. T.D. 4,245 ft.; P.B. to 4,140 ft.; will perforate pipe in Embar.
Fruedenthal No. 6, SE SE NE sec. 21-43-92. Drlg. 310 ft.
Ohio Oil Co. No. 75 Mill Iron Cattle Co., NE SW SE sec. 19-4n-98w. T.D. 3,862 ft. cmtd. 7-in. 3,840 ft. with 400 sacks; R.U.C.T.

Laramie County

Amerada Petroleum Corp., which heretofore has not operated in the Rocky Mountain area north of New Mexico, is drilling a water well in the SW cor. section 13-13n-68, southwest of Cheyenne, preliminary to making a test. Location of deep well not yet released. The company has

a block of 21½ sections covering state and fee land. No government or railroad lands are included. The leasing of the block last year followed extensive shooting over a wide area far south into Colorado.

Lincoln County

Senrab Oil Corp. No. 3 Govt., CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.
Texas Co. No. 2-D Govt., N SW NW sec. 10-26-113. Drlg. 845 ft.; 8⅝-in. parted.

Niobrara County

Two wells were completed in Lance Creek. Continental Oil Co. No. 2 Apex-3, C SE NW section 34-36-65, which extends the Sundance sand pool 1½ miles to the east, flowed 935 bbls. of oil and 440,000 feet of gas through the tubing the first 24 hours. The top of the Sundance was at 3,833 feet. The 8⅝-inch was cemented at 4,013 feet with 425 sacks and the top of the basal pay was at 4,019 feet. It is still in sand at total depth of 4,026 feet. The elevation is 4,387 feet.

Continental Oil Co. No. 1-B Schuricht, C NW SE section 6-35-65, the most southerly well on the southwest side of the pool, and one location out from production, flowed 1,869 bbls. of oil and 2,492,000 feet of gas the first 24 hours at a total depth of 4,009 feet. The top of the Sundance was at 3,708 feet and the basal Sundance was at 3,871-91 and 3,916-44 feet. It flowed 35 bbls. an hour while running tubing. Elevation is 4,401 feet.

Ohio Oil Co. No. 8 Lamb-2, SW cor. NE section 5-35-65, which is waiting on tankage to gauge, flowed 40 bbls. an hour on a drill stem test at a total depth of 4,047 feet from the basal Sundance at 4,026-44 feet. The saturated section was from 3,951 to 4,045 feet. Elevation 4,480 feet.

Continental Oil Co. No. 7 Rohlff, C NE SW sec. 32-36-65. R.U.
Continental Oil Co. No. 3 Schuricht, C SW NW sec. 5-35-65w. Cg. at 3,476 ft. in sd.; slight sat. at 3,450-62; dry sd. at 3,462-71 ft.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg. 756 ft. (cor.).
MacKinnie Oil & Drlg. Co. No. 1 Thompson, NE NW NE sec. 7-35n-65w. Drlg. 3,200 ft.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w. S.D. below 4,600 ft.; believed to have cored top of Tensleep.
Ohio Oil Co. No. 5 Putnam, C NW SW sec. 33-36-65w. Cmtd. 9⅝-in. at 200 ft.; W.O.C.
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. Drlg. 780 ft.
S. & H. Dev. Co. No. 1-A Olinger, SW NE sec. 1-36n-63. T.D. 1,750 ft.; fsg.

Park County

Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101w. Drlg. 4,335 ft.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55n-85w. S.D. 3,801 ft. (cor.).

Sublet County

Progressive Oil Co. No. 1 Haddenham, SE NW SW sec. 21-28n-113w. Drlg. 136 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Nightingale, C SW NE sec. 22-16n-104w. Drlg. 1,660 ft.

Uinta County

Bridger Basin Oil Co. No. 1-B, NW NW SW sec. 10-14n-118. Drlg. 1,165 ft.

Washakie County

Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48n-91. S.D. 984 ft.
Wyoming O. & R. Co. No. 2 Govt., NW SW SW sec. 31-48n-90w. T.D. 1,104 ft.; fsg. tools.
Wyoming O. & R. Co. No. 1 Frison, NW SW NW sec. 14-48n-91. T.D. 2,295 ft.; lowering 6¼-in. to 2,236 ft. to S.O.W. and test oil show.
Bruce C. Teeters No. 2 Govt., SW SW SW sec. 30-48n-90. Drlg. 1,300 ft.

Weston County

Production in the Osage field in June was 23,643 bbls. and deliveries to refineries amounted to 23,000 bbls.

Conway Oil Corp. No. 1 Govt., C SE NW sec. 7-41n-60w. Drlg. 2,327 ft. in Minnelusa.
Beaver Creek Oil Synd. No. 1 State, C NE NE sec. 23-44n-63w. R.U. and ready to spud; W.O. water.
Harkins et al No. 2, NE SW NW sec. 31-46n-63w. R.U.
Hawkeye Supply Co. No. 5, CWL NW SW sec. 18-46-62. Spdg.
Dubuque-Wyoming Synd. No. 2, SE NW NW sec. 31-46-62. Cmtd. 8⅛-in. at 500 ft.; W.O.C.
Wheedon Oil Co. No. 1, C SW SW sec. 16-46n-63. Spdg. 60 ft. (first report).

NEBRASKA

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-32n-50w. Bldg. rig; will test Madison at 3,900 ft.; blk. of 20,000 ac. (first report).

Red Willow County

C. W. Kelly et al No. 1 Bower, SE SW SE sec. 2-2n-29w. Dflg. 1,450 ft. (first report).

Sioux County

United Producers, Inc., et al No. 1 Morgan, C SW SW sec. 32-35n-56w. Cable tool rig on ground (first report).

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. Drlg. 3,535 ft.; 4½-in. cmtd. 3,497 ft.

Carbon County

The Ohio Oil Co., which has done no drilling in the Dry Creek field for more than a year, is resuming operations and will deepen its No. 1 Northern Pacific, from the Frontier at 4,469 feet, total depth, where it was completed as a gas well in 1928, to the Dakota sands. It is an offset to the discovery well in the Frontier and slightly to the southwest of its No. 2 Northern Pacific, NE NW SE section 11-7s-21, the discovery well in the Dakota, which was completed at 5,510 feet in 1930 for 2,300 bbls. a day of 52 gravity oil. Subsequently the discovery well was deepened to 5,516 feet and increased to 1,200 bbls. a day after having declined to 600 bbls. It is on the south side of the developed area.

Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. O.W.D.D. from 4,469 ft.; R.U. (first report).

Daniels County

Whitetail O. & G. Co. No. 1, NW NE NW sec. 10-36n-50e. Cmtd. 10-in. at 2,498 ft.

Fallon County

Montana-Dakota Utilities Co. No. 75, C SW sec. 25-9n-58. Drlg. 1,555 ft. on top Eagle sd.
Montana-Dakota Utilities Co. No. 2 Unit 3, C NE SW sec. 3-4n-62. R.U.; W.O. tools.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. S.D. 1,100 ft.; tools still in hole.
Judith Operating Co. No. 2 Govt., NW NE sec. 35-22n-17e. Drlg. 2,050 ft.
Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e. Drlg. 576 ft.

Glacier County

The Toronto Pipe Line Co., subsidiary of the British-American Oil Co., which last month cut the price of Cut Bank crude from $1.50 to $1.35 per barrel and began taking 100 per cent of oil from its connections, resumed proration of its purchases as of July 9. After that date it began taking 50 per cent of its division orders, 50 per cent of the production from its own wells and all contract oil offered. The company discontinued altogether the taking of oil from the Montana Power Gas Co. wells. The reason given for the action was that it had contracted for the production of the new Turner Valley Royalties Co. well in Turner Valley, across the line, and thereby reduced its needs for Cut Bank crude. The Turner Valley well is making 878 bbls. a day of 43 gravity crude against 30 gravity for Cut Bank. The well is increasing its flow slightly.

Four completions, of which one was dry and abandoned, were reported in the Cut Bank field, with an equal number of new operations.

The Montana Power Gas Co. No. 1 Mueller, C SE SE section 7-33n-5w, southeast of the town of Cut Bank, was dry and abandoned at 2,948 feet. It had the Cut Bank sand at 2,900-45 feet. Elevation 3,814 feet.

The same company had a good producer in its No. 1 Winkler, C SE SE section 28-33n-5w, at a total depth of 2,957 feet. It had 200 feet of oil in the Sunburst at 2,855-80 feet and 1,400 feet of oil from the Cut Bank at 2,908-55 feet. It swabbed 156 bbls. first 24 hours. Elevation is 3,913 feet. It is an outpost well one location east of a producer.

The Par Oil Co. No. 7 Haines, NW SW SW section 2-34-6w, swabbed 108 bbls. first 24 hours from the pay at 2,905-25 feet. Total depth is 2,925 feet.

H. R. Patterson No. 1 Miller, C NE NE section 1-33n-6w, close to the town of Cut Bank where only small wells or dry holes have been drilled, proved to be much better than the average well. It swabbed 241 bbls. first 24 hours from the Cut Bank at 2,850-77 feet. Total depth is 2,885 feet and elevation 3,765 feet.

G. A. Bodmar, Agt., No. 1 Govt., CSL SW SE sec. 14-36n-6w. R.O.G. (first report).
British-American Oil Co. No. 11 Tribal, Lot 7, (NW SE) sec. 10-34n-6w. M.I.M.
Cobb-Pardee No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Rig.
A. B. Cobb No. 1 All.-115, C SE SE sec. 31-33n-5w. Drlg. 1,755 ft.
Consolidated Gas Co. No. 2 All.-114, C SE SW sec. 31-33n-5w. Drlg. 1,255 ft.; Colo. 595 ft.; 10-in. 625 ft.
A. E. Crumley No. 1 All.-112, C SW SW sec. 6-32n-5w. R.O.G. (first report).
Dakota-Montana Oil Co. No. 2 Mattson, N NE NW sec. 14-34n-6w. Drlg. 1,850 ft.
B. V. Hole No. 1 Allotted-124, 640 ft. out of NE cor. sec. 1-32n-6w. Drlg. 1,050 ft.
Annand Hutchings No. 2 Federal Land Bank, C SE SW sec. 11-34n-6w. Drlg. 1,800 ft.
Wm. Hanlon, Agt., No. 1 All.-131, Lot 10, (SE NW) sec. 7-32n-5w. Spdg. 125 ft.
Kincheloe-Hanlon No. 2 State, NE NE NE sec. 36-33n-6w. T.D. 2,675 ft.; fsg. tools.
R. E. Lee No. 1 All.-127, SE SW NE sec. 26-33n-6w. Drlg. 610 ft.
Montana Headlight Oil Co. No. 6 Yunck, C SW NW sec. 1-34n-6w. Drlg. 2,655 ft.
Montana Power Gas Co. No. 1 Robb, C NW SW sec. 9-33n-5w. Loc. (first report).
Montana Power Gas Co. No. 1-G State, NW NW SE sec. 16-35n-5w. Drlg. 1,150 ft.; 10-in. cmtd. 547 ft.; 400 ft. of oil in Sunburst at 2,855-80 ft.; 8⅛-in. at 2,855 ft.
Montana Power Gas Co. No. 2 Miller, SW SE NW sec. 32-33n-5w. Loc. (first report).
Nadeau Bros. No. 1 Ewald, C NE SW sec. 7-32n-5w. Drlg. 590 ft.
Stanley Gray No. 1 Allotted-132, NW SE NW sec. 22-34-7w. Drlg. 3,340 ft.
Jack Marshall No. 1 Allotted-119, C SE SW sec. 1-32n-6w. Drlg. 2,500 ft.
Steel Creek Prod. Co. No. 1 Tarrant, C NW SW sec. 19-34n-5w. Drlg. 2,605 ft.
R. C. Tarrant No. 3 Reickhoff, C NE NE sec. 36-32n-6w. R.O.G. (first report).
R. C. Tarrant No. 2 fee, C NW NE sec. 13-34n-6w. Drlg. 465 ft.
R. C. Tarrant No. 6 Getty, SE NE SW sec. 2-34n-6w. Drlg. 2,595 ft.
Vern Johnson No. 1 Tribal-116, C SE NE sec. 35-33n-6w. R.U.
Wilkinson et al No. 1 Tribal-125, SW NE NE sec. 12-32n-6w. Drlg. 1,200 ft.; Colo. 555 ft.; 10-in. 590 ft. (formerly Whetstone).
Whetstone et al No. 1 Tribal-118, C SW SW sec. 1-32n-6w. Drlg. 1,675 ft.
Wilkinson et al No. 1 Allotted-127, C NE NE sec. 1-32n-6w. Rng. 7-in. at 2,993 ft.
Stanley Gray No. 1 Allotted-132, NW SE NW sec. 12-34n-7w. Drlg. 3,620 ft.; 6⅝-in. cmtd. 3,582 ft.

Petroleum County

H. C. Rowland No. 3 Govt., CEL NE SW sec. 18-17n-24e. Drlg. 850 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. Drlg. 900 ft.

Pondera County

Clinch Pet., Ltd., No. 1 Hollan, NW SW NW sec. 12-23-6w. Cmtd. cave at 2,000 ft.; W.O.C.
Warren Hastings No. 3 Erickson, NW NW NW sec. 10-27n-4w. R.U.
Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. S.D. 2,200 ft.
Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27-4w. Bldg. drk.

Teton County

R. C. Tarrant No. 1 Wallenstein, NW NW SW sec. 9-27-5w. Drlg. 2,350 ft.

Toole County

A. Beardslee No. 4 Swears, sec. 9-35n-2w. Spd. and S.D.
Alexander-Sorrell No. 1 Strange, NE NE SE sec. 31-35n-3w. S.D. 400 (C.O.) ft. for repairs.
Agen & Goeddertz No. 2 Goeddertz, C SE NE sec. 16-35n-3w. Drlg. 500 ft.
Boru Oil Co. No. 1 Reynolds, SW NE NW sec. 31-33n-4w. T.D. 1,435 ft.; W.O. rig.
Cassidy & Cassidy No. 2 Carlson, W½ SE NE sec. 22-35n-3w. Drlg. 1,480 ft.
Carscallen & Mitchener No. 1 Krueger, 1,320 ft. W of E line, 1,980 ft. S of N line, sec. 10-34n-2w. T.D. 1,650 ft.; acidized; did not recover load.
Coolidge & Coolidge No. 1 Badger Oil Co., NW SW NW sec. 31-36n-1w. Spd. and S.D.
Coolidge & Coolidge No. 1 Maley, SW SW SW sec. 30-36n-1w. S.D. 180 ft.
Coolidge & Coolidge No. 1 Hanlon, SW SW SE sec. 26-36n-2w. Drlg. 1,845 ft.; Sunburst at 1,618-35 ft.; est. 6 bbls.
Coolidge & Coolidge No. 2 Shaw, SE SE SE sec. 26-36n-2w. Drlg. 1,258 ft.
Continental Oil Co. No. 8 State, NE SE NE sec. 16-35n-2w. S.D. 1,520 ft. for repairs; Sunburst sd. at 1,515-45 ft.
Cook & Eddy No. 1 Larum, NE SE NW sec. 25-36n-2w. Drlg. 1,415 ft.
A. E. Crumley No. 10 Shaw, NE SW NE sec. 35-36n-2w. R.O.G. (first report).
Makula Oil Co. No. 1 Beaupre, SW SW SW sec. 5-35n-2w. Drlg. 750 ft. (formerly T. H. Harriman).
T. P. Kyle No. 1 Wolnsti, CSL SE SE sec. 3-37n-1w. Drlg. 1,680 ft.
Mahill Oil Co. No. 1 Van Note, NW NW SW sec. 30-35n-2w. Loc. (first report).
Munger No. 1 Peterson, NW NW SW sec. 8-35n-2w. S.D. 1,200 ft.
Welch Bros. No. 1 Dewald, SW NE NE sec. 26-36n-2w. S.D. 1,878 ft.
Superior Oil Co. No. 5 Haugen, SE SE NE sec. 11-35n-3w. Cmtd. 5 3/16-in. at 1,680 ft.; W.O.C.
R. C. White No. 2 Haugen, CNL NE SE sec 11-35n-3w. Rng. 6⅝-in. at 1,528 ft.

Michigan Fields

(Continued from Page 70)

Macomb County, near Mt. Clemens, where several Niagara tests have struck shows of oil and gas.

Gassers

Combined open flow capacity of all gas wells in the Tri-Townships field of Millbrook, Hinton and Belvidere, Mecosta and Montcalm counties, neared 2,900,000,000 feet a day with the completion of six producers ranging from 5,000,000 to 64,000,000 feet daily, a total of nearly 200,000,000 feet and an average of more than 33,000,000 feet.

Largest of five producers added in the southeasterly development in Belvidere Township was Midland Petrol & Gas Co. No. 3 B. Cornell, C NW SW section 4-12n-7w, which made 64,000,000 feet in the Michigan Stray sands.

Wolverine Natural Gas Co. No. 1 Marie Lumbert, C NW NW section 11, same township, gauged 55,000,000 feet as the second largest gasser in the shallow gas sands. Close on its heels was D. F. Jones No. 1 Jones, C NE SW section 11, Belvidere, which flowed about 49,700,000 feet daily in the Michigan sand making pay from 1,242 to 1,264 feet.

R. F. Voorhees, Inc., No. 1 Love, C SE SE section 9, was completed for 15,000,000 feet, and Superior Drilling & Producing Co. No. 1 E. L. Smalley, C NW SW section 2, Belvidere for 8,600,000 feet. Michigan Stray was topped at 1,240 in the Smalley well completed at 1,268 feet.

Gordon Oil Co. No. 2 Elsie Taylor, C NE NW section 25-13n-8w, Hinton Township, was the smallest new well of the week making about 5,000,000 feet at 1,320 feet after topping the Stray sand at 1,307 feet.

Tom F. Hill, formerly in the geological department of the Sun Oil Company at Tyler, Tex., has been transferred to Greenville to act as geological scout for the company in the northeast Texas counties.

M. B. Sweeney, general superintendent of the Sun Oil Company, Dallas, Tex., is vacationing with his family in Colorado.

West and North Texas

By L. E. BREDBERG

COMPLETE A 3,000-BBL. WELL IN ECTOR'S GOLDSMITH POOL

FORT WORTH, Tex., July 20.—Of the 43 locations staked in the West Texas district this week, three were for extreme wildcat tests, two to be drilled in two of the northern tier of West Texas counties, Hockley and Borden, the other being located in the Edwards Plateau region in Edwards County. During the same seven-day period 35 tests in the district were completed, 32 of which were oil wells.

Yoakum County Tests

Two of the most important wildcats drilling in the Permian Basin are in Yoakum County. Bahan and others No. 1 Henard, located in section 367, Block D, J. H. Gibson Survey, about 10½ miles northwest of the Yoakum County discovery of Davidson and others, is now shut down at 4,672 feet testing in an effort to locate source of the small water showing in the hole. Top of the lime was found at 4,491 feet, or 298 feet higher than the first lime logged in the discovery well to the south, which logged its first showing of oil and gas 433 feet below first top of lime, or at 5,088 feet.

Roosevelt & Stogner No. 1 Googins estate, located in section 215, Block D, J. H. Gibson Survey, and about 5½ miles north and east of the Bahan test, topped the Yates sand at 3,135 feet, about 25 feet lower than found in the latter test. It is drilling ahead around 3,300 feet.

Hockley County Wildcat

Texas Co. is now moving in rotary to drill the third test ever drilled in Hockley County, in the southwest corner. Location is in Labor 83, League 38, Zavalla County School Lands Survey, whereas the former two tests were in the eastern part of the county.

Another wildcat to be drilled in this northern sector of West Texas, is to be put down by Moore Brothers on the Clayton-Johnson ranch, in section 20, Block 32, Township 4n, T.&P. Survey, in the southwest quarter of Borden County and about equidistant between two dry holes.

The Edwards County test, located on the Edwards Plateau, in the southeastern part of the West Texas district, is being drilled by M. I. Phillips and Miers on the Turney ranch. Location is in section 164, C.C.S.D.&R.G.N.G. Survey.

Jones County received the start of another wildcat this week when the Owens-Snebold Oil Corp. of Fort Worth spudded its No. 1 Jones in the McKissick Survey No. 204, about 1 mile north of Truby. It is drilling below 300 feet. This county has received the attention of more wildcatters this year than any other county in the district, the shallow prolific sands found in various producing areas in the county making wildcatting especially inviting.

Interesting Ector Test

Empire Gas & Fuel Co. is digging cellar for an interesting test in the northeast corner of Ector County, midway between the small discovery of Davidson in section 10 and the recent discovery of Dunning to the south in section 33, both in Block 45, Township 1n, T.&P. Survey. This new location is in section 22, same block, and will either prove or disprove the theory that the two separate areas will be linked by production, or are separate pools. The Dunning discovery is believed to be a part of the Goldsmith pool to the southeast and if the Empire test proves a producer, proving a connecting link with the production to the north, the Goldsmith field will be proven as one of the largest in the district, extending about 12 miles from the southeast to the northwest.

Winkler Abandonments

Two important tests were abandoned in Winkler County this week. One, an extreme wildcat sunk by Fred Hyer in section 8, Block 56, near the New Mexico County line, and in the northeastern part of the county, was given up as a dry hole at 5,000 feet. Elevation is 3,082 feet. It had water in the lime at 4,867-85 feet and logged an increase at 4,985 feet to the total depth.

The other abandonment was registered by the Shell Petroleum Corp. on the Leck Ranch, in section 32, Block 74, about 1½ miles northwest of the nearest production in the newly opened Henderson area. Total depth is 3,450 feet and elevation is 2,859 feet.

New Pool in Jones

N. H. Martin & Sons of Wichita Falls, have opened another producing area in eastern Jones County on the Mary and E. P. Spurrier lands in Subdivision 1 of the W. C. Walker Survey. The discovery well is about 5 miles southeast of the Lueders pool and 3 miles north of Nugent. Production is coming from the Hope sand logged at 1,921-28 feet. A pumping gauge showed it good for 72 bbls. of oil and 12 bbls. of water per day. The owners of the discovery are expected to start an offset in the near future and the Empire Gas & Fuel Co. is also expected to start an offset on its acreage near the new well.

Goldsmith Extension

The largest natural producer yet completed in the Goldsmith field in Ector County, was brought in by the Phillips Petroleum Co. on acreage farmed out by Pure Oil Co. The well, No. 5 Clyde Cowden, located in section 23, Block 44, Township 1s, T. & P. Survey, logged the main pay at 4,111 feet and was bottomed at 4,158 feet, flowing 2,010 bbls. in 17 hours, or better than a 3,000-bbl. well without shooting or acidizing. It also extends the pool about one quarter of a mile to the east, making acreage farther to the east appear as in a heavier producing area then heretofore tested.

The old McGamey pool in Upton County received a half-mile extension when the Homestead Oil & Gas Co. No. 1 M. C. Powell, located in the southwest corner of the north 160 acres of the Powell 631-acre lease in the J. H. King Survey, topped the lime at 2,525 feet and the pay at 2,575 feet and showed for a producer. It is located about one-half mile northwest and about the same distance southeast of production in the old pool.

North Central Texas District

Stroube and others are preparing to sink a 3,500-foot test on the D. K. Clark lands 1 mile southwest of Westminster, in the John Rolland Survey, Collin County, and are moving in material on location. This will make the third active test for this county, which has been receiving more attention of late and is due to see still more exploration work in the near future.

The California Consolidated Oil Co. spudded a test on its 10,000-acre block in Collin and Fannin Counties. Location is on the James Rush farm in Survey No. 4. The test is reported scheduled to go to 4,200 feet. Same company is to sink a test on a 7,000-acre block in the southeast corner of the William Creager Survey, about 2½ miles west of the Hunt County line and on the east side of Collin County, near the town of Blue Ridge.

Deep Montague Test

L. C. Heydrick of Wichita Falls staked location for a 3,500-foot test on the C. Dowd farm in the G. W. Browning Survey, 2 miles west of Illinois Bend, and about same distance north of the Seitz field, in Montague County, to test the several pay horizons found in the latter pool and to go deeper if necessary to find commercial production.

White and Duncan are drilling a wildcat in section 27, Block 14, T.&P. Survey, in southwestern Shackelford County, offsetting a 2,400-acre block recently blocked by Fain & McGaha Oil Corp. on the W. Y. and Merrick Davis ranch.

A new Cook sand pool was opened in Shackelford County, 5 miles northeast of Albany. Julius Leschber brought in this discovery on the Mack Hays lands in the T.E.L. Survey No. 545. The well made between 12 and 15 bbls. per hour on the pump from sand logged between 758 and 769 feet. Shallow wells have been producing in the area from the Fry sand for the past 10 years, but this well opens production from the deeper pay horizon found to the west in the county.

There were 42 completions reported for the Wichita Falls district this week with 37 locations staked for new tests.

Helmerich and Payne of Tulsa have staked location for a 4,200-foot wildcat on the M. K. Graham lands in the B.B.B.&C. Survey, Abstract 36, 2 miles southeast of Texas Co.'s producer on the Stephens land in section 1,985, T.E.&L. Survey, and about the same distance west of the Jack County line in eastern Young County.

Panhandle District

In Childress County, Thompson and others will test the Russell lands, in section 544, Block H, W.&N.W. Survey. The hole will be drilled with rotary tools.

Cooke County—North Central Texas

Sinclair Prairie Oil Co. has leased some 1,700 acres in the northeast part of Cooke County, centering around the town of Dexter. The company has had three shooting crews working in the area, and a reported test is to be carried to 6,000 feet and spud within 60 days, according to field reports.

WEST TEXAS COMPLETIONS

Crane County

Continental Oil Co. No. 4-B Cowden, 2,314-2,460 ft., shot, 223 bbls.

Ector County

Stanolind Oil & Gas Co. No. 34 Cowden, total depth 4,283 feet, shot, 675 bbls.

Fisher County

National Oil Corp. No. 2 Parker, total depth 3,155 feet, acidized, 150 bbls.

Howard County

Ward Oil Co. No. 24 Roberts, 2,941-2,944 feet, 1,402 bbls. Continental Oil Co. No. 9 Eason, 2,438-2,457 feet, acidized, 1,582 bbls. Murray No. 4 Davis, 2,458-2,468 feet, shot, 765 bbls.

Jones County

Ungren and Frazier No. 6-C Dorsey, 2,195-2,214 feet, 848 bbls. in 11 hours. Sinclair Prairie Oil Co. No. 1-A King, 2,203-2,217 feet, 624 bbls. Shaheen and others No. 1 Steele, dry and abandoned 1,296 feet. N. H. Martin No. 1 Mary and E. P. Spurrier, 1,920-28 feet, 20 bbls.

Loving County

The California Co. No. 6 Allen, 4,100-4,273 feet, shot, 52 bbls.

Pecos County

Cardinel Oil Co. No. 1-D Smith, 431-50 feet, 18 bbls. Marathon Oil Co.

No. 50-A Yates, 1,160-1,330 feet, 29 bbls. per hour.

Upton County

Anderson and Rutter No. 1 Burleson, 2,197-2,215 feet, acidized, 141 bbls.

Ward County

F. H. E. Oil Co. No. 2-C Richter, 2,462-2,570 feet, shot, 1,157 bbls.; No. 2-A Richter, 2,460-2,570 feet, shot, 1,020 bbls.; No. 1-B Maxwell, 2,254-2,397 feet, shot, 372 bbls. Atlantic Oil Producing Co. No. 4 Camp, 2,350-2,620 feet, shot, 433 bbls. Wahlenmaier No. 7 Potts, 2,205-2,384 feet, shot, 425 bbls. Sinclair Prairie Oil Co. No. 2 Messer, 2,225-2,352 feet, shot 352 bbls. Rio Bravo Oil Co. No. 9 Alcott, 2,279-2,536 feet, shot, 2,568 bbls.; No. 5 Alcott, 2,251-2,505 feet, shot, 1,007 bbls. The California Co. No. 40 Durgin, 2,339-2,544 feet, shot, 957 bbls.; No. 28 Gordon, 2,386-2,513 feet, shot, 1,570 bbls. Gulf Oil Corp. No. 51 Hutchins, 2,736-2,800 feet, shot, 77 bbls.; No. 1 Estes, 2,478-2,575 feet, shot, 53 bbls.

Winkler County

Falcon Oil Co. No. 2 McCutcheon, 3,246-3,650 feet, shot, 250 bbls. Magnolia Petroleum Co. No. 4 Sealey, 3,121-3,129 feet, acidized, 151 bbls. Atlantic Oil Producing Co. No. 8-J Hendrick, 2,880-3,040 feet, shot, 931 bbls. Illinois Oil Co. No. 1 Scarborough, 2,912-2,975 feet, shot, 258 bbls.; No. 1-A McCutcheon, 2,850-2,974 feet, shot, 1,027 bbls. Atlantic and Wahlenmaier No. 1-B Leck, 3,010-3,075 feet, 2,307 bbls. Hyer No. 1 Cowden, dry and abandoned 5,000 feet, elevation 3,082 feet. Herbert Oil Co. No. 1 Hencrick, 2,636-3,031 feet, shot, 43 bbls. through three-quarter inch choke. Shell Petroleum Corp. No. 1 Leck and others; dry and abandoned 3,450 feet, elevation 2,859 feet.

NORTH TEXAS COMPLETIONS

Archer County

L. T. Burns No. 1 Ferguson C, 1,800 feet, dry; No. 1 J. J. Perkins C, 1,611-18½ feet, 150 bbls. C. B. Christie No. 5 L. F. Wilson, 1,608-12 feet, 114 bbls. Deaton & Gose No. 1 H. Hawkins, 521 feet, dry. N. D. Goldsmith No. 3, L. F. Wilson, 1,605-11 feet, 100 bbls. C. B. Long No. 12 J. H. Turbeville, 1,491-1,501 feet, 25 bbls. Nelson & Tucker No. 4 H. Ford, 990-1,002 feet, 5 bbls. Shappell Oil Co. No. 1 W. H. Thomas, 1,480 feet, dry.

Cooke County

Anderson & Kerr No. 1 S. M. King, 2,046-56 feet, 530 bbls. Bridwell Oil Co. No. 5 R. W. Trew A, 1,752 feet, dry. A. D. Robonson No. 2 J. H. Otto A, 810-45 feet, 8 bbls. E. J. Ruwaldt No. 7 Andress, 1,498 feet, dry. Seitz and others No. 15 Trew A, 1,600 feet, dry. Texas Co. No. 2 Truebenbach, 934-79 feet, 11 bbls. Whitfield Pearson & Grimes No. 1 S. R. Rose, 1,937-44 feet, 632 bbls.

Jack County

R. D. Compton Oil Co. No. 5 Henderson, 370 feet, dry; No. 1 O. Loving, 331-37 feet, 2 bbls. Gillispie Brothers No. 1 G. M. Helvey, 2,955-3,011 feet, 60 bbls. E. C. Gossum No. 1 D. L. Perrin, 480 feet, dry. Lawson & Kistler No. 1 C. C. Chambers, 2,973-99 feet, 86 bbls. Panhandle Refining Co. No. 3 M. B. Cook, 2,858-62 feet, 25 bbls. Yorktex Petroleum Co. No. 1 Clayton & Son, 2,958-70 feet, 385 bbls.

Montague County

Pure Oil Co. No. 10 J. W. Maddox A, 814-39 feet, 12 bbls. Texas Co. No. 11 R. W. Cunningham A, 900-20, 19 bbls; No. 10 R. W. Cunningham B, 929-40 feet, 38 bbls.

Wichita County

A. E. Blair No. 4 C. A. Mertins, 463-73 feet, 3 bbls. J. A. Coker No. 1 L. F. Ramming, 35 feet, temporarily abandoned. Mogren & Anderson No. 39 E. E. Goetze, 175-95 feet, 1 bbl. W. B. Omohundro No. 5 S. P. Gibson A, 1,843-1,936 feet, 125 bbls. C. E. Rollins No. 1 J. W. Seals, 730 feet, dry. C. P. Sheldon No. 1 C. H. Whittenbach, 2,037 feet, dry. Texas Co. No. 428 Waggoner A, 1,554-76 feet, 25 bbls.; No. 429 Waggoner A, 1,569-74 feet, 41 bbls.

Wilbarger County

Barkley & Meadows No. 19 W. T. Waggoner C, 1,106-24 feet, 39 bbls.

Young County

Fresno Oil Co. No. 4 J. W. Cox, 589-98 feet, 6 bbls. Gorsuch Oil Co. No. 21 Mathews, 745 feet, dry. R. E. Hurley No. 2 R. D. Webb, 710 feet, dry. E. C. Lawson No. 1 O. W. Hill, 4,003-10 feet, 2,000 bbls. L. A. Long No. 1 S. R. Jeffery, 3,977-79 feet, 8,000 bbls. Will McKemie No. 8 F. M. Cullers, 580 feet, dry. Rathke Oil Co. No. 2 Jeffery, 3,963-67 feet, 1,500 bbls. Wichita Production Co. No. 11 E. C. Keith, 714-21 feet, 10 bbls. Wootten & Wilson No. 1 S. L. Scott, 748-52 feet, 42 bbls.

PANHANDLE COMPLETIONS

Carson County

Ryan Consolidated Oil Co. No. 12 Block, 3,066-3,185 feet, shot, 632 bbls., pumping.

Hall County

Davis No. 1 Knorpf, abandoned at 530 feet.

Gray County

Alma Oil Co. No. 2 Kretzmier, 3,256-3,309 feet, shot, 487 bbls., pumping. Bradshaw Oil & Gas Co. No. 3 Vaniman, 3,212-3,314 feet, 779 bbls., pumping. Skelly Oil Co. No. 74 Schaffer, 3,215-3,310 feet, acidized and shot, 932 bbls., pumping. Claude Drilling Co. No. 1 Huff, 2,580-2,700 feet, 19,850,000 feet of gas. Empire Gas & Fuel Co. No. 8 Cunningham, 3,220-3,295 feet, shot, 840 bbls., pumping. Magnolia Petroleum Co. No. 3 Barrett, 3,215-80 feet, shot, 378 bbls., pumping. Magnolia Petroleum Co. No. 14 Harrah, 3,152-3,208 feet, shot, 405 bbls., pumping. Southwest Production Co. No. 2-A Cobb, 2,460-3,290 feet, 32,000,000 feet of gas.

Hutchinson County

Crosbie, Inc., No. 12 Pitts, 2,860-2,977 feet, shot, 745 bbls., pumping. Gulf Oil Corp. No. 59 Dial, 2,960-3,053 feet, shot, 198 bbls. of oil and 30 bbls. of water, pumping. Niapa Oil Co. No. 2 Haile, 3,047-3,083 feet, shot, 451 bbls., pumping. Anderson & Kerr Petroleum Co. No. 1 Jackson, 3,499 feet, plugged back to 3,300 feet, shot, 43,338,000 feet of gas. Phillips Petroleum Co. No. 4 Perkins, 2,998-3,032 feet, shot, 97 bbls. in 12 hours, pumping. Stansylvania Oil Co. No. 4 Stansbury, 2,740-2,968 feet, 20 bbls. Stekoll Oil Production Co. No. 1 Thompson, dry and abandoned, 3,103 feet. U-Tex Oil Co. No. 4-B Ware, 3,095-3,175 feet, shot, 633 bbls., pumping.

Moore County

Anderson and Kerr Petroleum Co. No. 1 Burnett, 2,885-3,235 feet, 42,286,000 feet of gas; No. 1-M Jones, 2,850-3,232 feet, shot, 36,563,000 feet of gas. Shamrock Oil & Gas Co. No. 1-E Robertson, 3,300-3,710 feet, shot, 15,350,000 feet of gas.

Wheeler County

Marfax Oil Co. No. 1 Stewart, 2,114-2,121 feet, 208 bbls. Dumar Oil & Gas Co. No. 3 Grogan, 1,650-1,860 feet, 33,700,000 feet of gas. Skelly Oil Co. No. 3 Belew, 2,430-2,580 feet, shot, 20 bbls.

Eastern Fields

(Continued from Page 66)

a rig up on the T. B. Amons farm in Center district. In Lee district, Southeastern Gas Co. has a rig up for No. 2 James Roberts farm, and a location on the G. R. Roberts farm. H. S. Adams and others made a location on the Carr Shafer farm.

In Fayette County, Godfrey L. Cabot, Inc. is building a road to No. 8 on the Kanawha Gauley Coal & Coke Co. tract on Fishhook Fork of Blake Brook in Falls district.

In Harrison County, the Lumberport-Shinnston Gas Co. has rig up on the B. F. Lancaster 36-acre farm in Sardis district; in Kanawha County, Valley Gas Co. has rig up for No. 3 George W. Harless on Pigeon Roost of Indian Creek in Elk district.

In Logan County, Boone County Coal Co. made a location for No. 9-I on Rockhouse Branch in Logan district. It is 1,600 feet southwest of No. 8-H.

In Marion County, Victor E. Tennant is down 1,725 feet on the Kohn farm in Lincoln district. Here, the Hope Construction & Refining Co. is drilling deeper in No. 2,038 on the Hamilton and Hardsty farm. In Paw Paw district, this company has rig up for No. 7,737. In the same district, the Owens-Illinois Glass Co. is down 2,803 feet deepening the No. 1 D. R. Jones.

In Marshall County, the Valley Run Oil & Gas Co. is drilling at 1,180 feet in the test on the C. Yoho farm in Liberty district. In Monongalia County, Dun Marr Oil Co. is rigging up No. 3 Tennant farm. Philadelphia Oil Co. is down 1,070 feet on the Alex Hennen farm in Battelle district and 575 feet in No. 2 J. J. Moore in Clay district.

In Pleasants County, W. J. McCullough is building a rig on the Robert Wilson farm on Rock Run in Lafayette district.

In Tyler County, Ohio Oil & Gas Co. has started No. 2 Bessie Lawson farm on Little Sancho Creek in Meade district. American Oil Development Co. is drilling on the Leroy Pierpont farm on Pitts Run in Clay district.

East Texas Fields

(Continued from Page 80)

Rogers Brothers No. 2 Eves, 3,834-41 feet, 10 bbls. in three hours. Sun Oil Co. No. 14 O'Byrne, 3,720-21 feet, 20 bbls. per hour, on swab. United East & West Oil Co. No. 3 Smith, 3,655-3,701 feet, dry and abandoned. Wardell Oil Co. No. 3 Starr, 3,580-86 feet, 15 bbls. in 30 minutes.

Cherokee County

Sinclair Prairie Oil Co. No. 4 Kirsh, 3,674-75 feet, 5 bbls. per hour, on pump.

Miscellaneous Completions

Anderson County

Tide Water and others No. 2-A Horton, 4,058-88 feet, 33 bbls. in 24 hours through 5/64-inch choke.

Franklin County

J. B. Bond and G. B. Werby No. 2 T. J. Sanders, 4,334-44 feet, dry and abandoned, elevation 359 feet. Humble Oil & Refining Co. No. 2 King & Hughes, 4,143-4,329 feet, 43 bbls. per hour, 2½-inch tubing. McAlister Fuel Co. No. 2 Crawford, 4,159-4,303 feet. 40 bbls. per hour, 2-inch tubing.

Freestone County

Tom Sharp and others No. 1 E. E. Lamb, dry and abandoned 3,378 feet, elevation 368 feet; top Woodbine 3,340 feet.

Navarro County

Coffiel & Guthrie No. 3 Crews, total depth 1,060 feet, 5 bbls. in 24 hours, on pump. Thompson & Sitton No. 1 Bush, total depth 1,268 feet, estimated 1,000,000 feet of gas.

Red River County

Joiner and others No. 1 D. Rust, abandoned location.

Titus County

Jones & Shelburne No. 1 M. Hazelwood, dry and abandoned 4,334 feet, top Paluxy 4,285 feet, elevation 342 feet. Stroube & Stroube No. 1 S. E. Strutton, dry and abandoned 4,510 feet, top Paluxy 4,275 feet, elevation 341 feet, 6 miles east of Talco.

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GULF COAST WATER SHIPMENTS—MAY, 1936

Company and terminal—	Crude—Coastwise	Crude—Exports	Refined—Coastwise	Refined—Exports	Total
Atlantic Pipe Line Co.:					
Atreco	1,700,831.08	.....	3,471.50	.....	1,704,302.58
Texas City	343,314.62	.....	9,044.00	.....	352,358.62
Harbor Island	748,914.60	.....	.....	.....	748,914.60
Coastal Refineries:					
Port Isabel	.....	.....	147,108.94	.....	147,108.94
Gulf Oil Corp.:					
Port Arthur	592,980.76	.....	2,830,194.16	99,388.41	3,522,563.33
Humble Oil & Ref. Co.:					
Baytown	551,277.12	270,328.87	2,400,878.89	670,928.96	3,983,413.84
Harbor Island	2,284,849.32	.....	.....	.....	2,284,849.32
Texas City	426,214.43	.....	.....	.....	426,214.43
Magnolia Pet. Co.:*					
Beaumont	1,050,053.11	.....	2,388,708.40	.....	3,438,761.51
Pure Oil Co.:					
Smiths Bluff	535,184.00	.....	775,475.00	.....	1,310,659.00
Shell Pet. Corp.:					
Houston	315,279.00	271,759.00	1,143,417.00	264,315.00	1,994,770.00
Norco	.....	.....	300,779.00	.....	300,779.00
Standard Oil Co. of La.:					
Baton Rouge	72,493.00	142,092.00	1,538,834.00	341,438.00	2,094,857.00
Sun Pipe Line Co.:					
Sabine Pass and Sun..	1,443,231.15	.....	.....	.....	1,443,231.15
Texas Co.:					
Port Arthur	1,533,185.00	498,219.00	2,199,619.00	956,948.00	5,187,971.00
Miscellaneous	1,396,755.23	202,800.13	1,466,190.71	313,597.39	3,279,343.46
Total May, 1936	12,894,562.42	1,385,199.00	15,203,720.60	2,646,615.76	32,130,097.78
Total April, 1936	12,424,023.13	802,456.92	14,996,594.50	2,188,094.65	30,411,169.20
Difference	470,539.29	582,742.08	207,126.10	458,521.11	1,718,928.58

*No distinction made between coastwise and export shipments.

Summary of Operations, All Fields, June

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Pennsylvania Grade fields	433	734	31	53
Lima	8	25	2	5
Central Ohio	17	25	4	12
Indiana	16	285	4	7
Kentucky	25	736	8	0
Michigan	96	6,896	28	31
Kansas	125	56,568	33	3
Oklahoma	227	128,208	64	5
North-Cent. Texas	248	10,670	127	5
West Texas	129	70,574	20	1
Texas Panhandle	46	14,452	1	10
East Cent. Texas	22	2,576	7	1
East Texas field	223	6,970	16	0
East Texas border counties	7	5,712	1	1
Gulf Coast Texas	120	35,173	35	3
Southwest Texas	247	56,270	48	8
North Louisiana	52	15,767	12	9
Gulf Coast La.	45	17,777	11	0
Arkansas	8	107	1	1
Mississippi	1	0	1	0
Montana	26	1,599	4	1
Wyoming	9	5,389	1	0
Colorado	3	1,000	2	0
New Mexico	62	67,905	6	2
Utah	1	0	1	0
Total June	2,196	505,418	468	155
Total May	2,065	508,553	421	141
Difference	131	3,135	47	14

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Pennsylvania Grade fields	91	392	483
Lima	3	32	35
Central Ohio	31	108	139
Indiana	0	15	15
Kentucky	0	20	20
Michigan	65	133	198
Kansas	41	314	355
Oklahoma	59	636	695
North-Central Texas	71	229	300
West Texas	92	289	381
Texas Panhandle	33	124	157
East Central Texas	11	66	77
East Texas field	67	155	222
East Texas border counties	7	27	34
Gulf Coast Texas	18	112	130
Southwest Texas	60	177	237
North Louisiana	30	106	136
Gulf Coast Louisiana	9	58	67
Arkansas	8	35	43
Mississippi	0	10	10
Alabama	0	1	1
Florida	0	5	5
Montana	14	64	78
Wyoming	9	51	60
Colorado	5	31	36
New Mexico	19	121	140
Utah	2	6	8
Total June	745	3,317	4,062
Total May	847	2,923	3,770
Difference	102	394	292

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Alfalfa	1	0	1	0	0	0	0
Atoka	1	0	1	0	0	4	4
Beckham	0	0	0	0	1	1	2
Caddo	2	1,077	1	0	2	4	6
Carter	18	4,264	3	0	2	14	16
Cleveland	1	4,244	0	0	3	10	13
Coal	0	0	0	0	0	5	5
Comanche	2	18	1	0	1	7	8
Cotton	3	42	1	0	0	3	3
Creek	16	323	7	1	2	36	38
Garfield	0	0	0	0	0	3	3
Garvin	0	0	0	0	1	4	5
Grady	0	0	0	0	3	3	6
Harmon	0	0	0	0	0	1	1
Hughes	16	1,648	3	2	1	17	18
Jackson	4	81	2	0	0	12	12
Jefferson	2	37	0	0	0	5	5
Johnston	0	0	0	0	0	1	1
Kay	0	0	0	0	0	4	4
Kiowa	3	0	3	0	0	4	4
Le Flore	0	0	0	0	0	1	1
Lincoln	4	1,501	2	0	1	6	7
Logan	2	2,343	0	0	0	11	11
Love	0	0	0	0	1	3	4
Marshall	2	4	1	0	0	6	6
McClain	0	0	0	0	0	1	1
McCurtain	0	0	0	0	0	1	1
McIntosh	0	0	0	0	0	3	3
Murray	0	0	0	0	0	1	1
Muskogee	0	0	0	0	0	7	7
Noble	3	2,367	1	0	1	6	7
Okfuskee	10	935	6	0	5	19	24
Oklahoma	29	64,658	4	0	7	141	148
Okmulgee	11	235	6	0	2	39	41
Osage	24	9,971	4	1	4	45	49
Pawnee	2	51	0	0	1	8	9
Payne	0	0	0	0	0	6	6
Pittsburg	0	0	0	0	0	3	3
Pontotoc	37	27,269	5	1	11	85	96
Pottawatomie	2	141	0	0	4	15	19
Pushmataha	0	0	0	0	0	1	1
Seminole	22	6,916	8	0	5	52	57
Stephens	5	62	1	0	0	11	11
Tillman	0	0	0	0	0	6	6
Tulsa	3	15	2	0	0	16	16
Wagoner	2	6	1	0	1	4	5
Washita	0	0	0	0	0	1	1
Ttl. June	227	128,208	64	5	59	636	695
Ttl. May	186	99,123	54	5	91	587	678
Difference	41	29,085	10	0	32	49	17

KANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Barber	0	0	0	0	1	1	2
Barton	11	12,746	1	0	2	23	25
Butler	6	672	1	0	0	17	17
Chase	0	0	0	0	0	1	1
Coffey	0	0	0	0	0	2	2
Cowley	7	40	5	1	2	14	16
Clark	0	0	0	0	0	1	1
Decatur	0	0	0	0	0	1	1
Edwards	0	0	0	0	0	1	1
Ellis	7	4,184	3	0	3	31	34
Ellsworth	2	1,815	0	0	0	10	10
Finney	1	0	0	1	0	1	1
Graham	0	0	0	0	1	1	2
Grant	0	0	0	0	0	1	1
Greenwood	9	485	2	0	0	11	11
Harper	0	0	0	0	0	1	1
Harvey	1	0	1	0	0	4	4
Haskell	0	0	0	0	1	1	2
Kingman	0	0	0	0	1	2	3
Marion	0	0	0	0	0	1	1
McPherson	3	706	0	0	2	18	20
Morris	0	0	0	0	0	1	1
Morton	0	0	0	0	0	2	2
Ness	0	0	0	0	0	2	2
Pratt	0	0	0	0	0	1	1
Pawnee	0	0	0	0	1	0	1
Reno	12	6,159	0	0	4	21	25
Rice	26	18,532	5	0	7	41	48
Rooks	0	0	0	0	0	9	9
Rush	1	0	1	0	1	6	7
Russell	17	7,350	7	0	9	49	58
Saline	0	0	0	0	1	1	2
Scott	0	0	0	0	0	1	1
Sedgwick	2	0	2	0	1	2	3
Stafford	0	0	0	0	0	4	4
Stevens	1	0	0	1	0	2	2
Sumner	8	2,692	3	0	2	15	17
Trego	1	70	0	0	1	5	6
Woodson	10	1,117	2	0	1	9	10
Ttl. June	125	56,568	33	3	41	314	355
Ttl. May	136	68,592	43	5	65	315	380
Difference	11	12,024	10	2	24	1	25

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Andrews	2	976	0	0	2	1	3
Brewster	0	0	0	0	0	2	2
Concho	1	0	1	0	0	1	1
Crane	6	3,776	0	0	6	19	25
Cochran	0	0	0	0	0	1	1
Crockett	0	0	0	0	0	2	2
Dawson	0	0	0	0	0	1	1
Ector	12	5,677	0	0	6	18	24
El Paso	0	0	0	0	0	1	1
Edwards	1	0	1	0	0	0	0
Fisher	1	270	1	0	2	7	10
Gaines	0	0	0	0	0	2	2
Garza	0	0	0	0	0	2	2
Glasscock	2	19	1	0	1	1	2
Howard	10	3,510	2	0	10	18	28
Hudspeth	0	0	0	0	0	1	1
Jeff Davis	0	0	0	0	0	1	1
Jones	9	2,047	3	0	7	18	25
Loving	1	113	0	0	0	3	3
Menard	1	0	1	0	0	0	0
Nolan	0	0	0	0	0	1	1
Pecos	18	8,551	5	0	14	24	38
Presidio	0	0	0	0	0	1	1
Reagan	2	214	1	0	0	0	0
Reeves	0	0	0	0	0	2	2
Runnels	0	0	0	0	0	2	2
Schleicher	0	0	0	0	0	2	2
Scurry	0	0	0	0	0	1	1
Taylor	0	0	0	0	0	3	3
Terry	0	0	0	0	1	0	1
Tom Green	1	0	1	0	0	1	1
Upton	6	2,291	0	0	9	29	38
Ward	28	18,451	3	0	14	72	86
Winkler	28	24,679	0	1	19	50	69
Yoakum	0	0	0	0	0	2	2
Total June	129	70,574	20	1	92	289	351
Total May	120	56,842	16	2	87	281	368
Difference	9	13,732	4	1	5	8	13

TEXAS PANHANDLE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Carson	2	566	0	1	1	9	10
Gray	17	7,381	0	2	11	41	52
Hartley	0	0	0	0	0	1	1
Hutchinson	12	2,755	1	1	17	37	54
Moore	2	45	0	1	3	15	18
Roberts	0	0	0	0	0	2	2
Wheeler	13	3,705	0	5	1	19	20
Total June	46	14,452	1	10	33	124	157
Total May	63	20,078	4	19	38	131	169
Difference	17	5,626	3	9	5	7	12

SOUTHWEST TEXAS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Agua Dulce	0	0	0	0	0	2	2
Alta Verde	2	0	1	1	2	0	2
Aviator	1	50	0	0	0	0	0
Bentonville	1	190	0	0	1	5	6
Branyon	1	30	0	0	0	0	0
Callihan	1	0	1	0	2	2	4
C. Driscoll	1	0	0	1	0	0	0
Dirks	2	650	0	0	0	1	1
Driscoll	0	0	0	0	0	1	1
Escobas	3	70	1	0	1	1	2
Gov. Wells	1	0	1	0	0	1	1
Guerra	0	0	0	0	1	0	1
Haynes	8	320	0	0	3	1	4
Hoffman	12	2,370	2	2	0	4	4
Holzmark	1	0	1	0	0	0	0
N. Kohler	1	0	0	1	0	0	0
Labbe	1	0	0	1	0	1	1
Loma Novia	47	16,910	0	0	6	8	14
Loma Vista	1	0	1	0	0	0	0
Lopez	14	6,480	0	0	3	5	8
Lucas	0	0	0	0	0	1	1
Margo	1	0	1	0	0	0	0
Mercedes	1	0	1	0	1	2	3
O'Hern	11	1,520	3	0	2	2	4
Palangana	0	0	0	0	1	0	1
Pearsall	0	0	0	0	0	5	5
Peters	1	360	0	0	0	3	3
N. Pettus	7	1,280	1	0	2	3	5
Plymouth	5	1,090	0	0	2	7	9
Piedra Lumbre	4	970	0	0	1	0	1
Piedras Pintas	1	0	1	0	0	0	0
Ray	1	0	1	0	1	0	1
Rhode	2	0	1	1	1	0	1
Rio Grande City	1	60	0	0	1	2	3
Salt Flat	2	80	0	0	1	0	1
Samfordyce	8	890	2	0	2	4	6
Saxet	18	5,610	1	0	3	32	35
Saxet Heights	27	5,770	0	0	3	16	19
Seven Sisters	30	11,020	2	1	3	14	17
Taft	1	260	0	0	1	2	3
Voss	1	240	0	0	1	0	1
Walton	1	50	0	0	0	0	0
Misc.	26	0	26	0	15	52	67
Total June	247	56,270	48	8	60	177	237
Total May	290	85,815	49	12	59	182	241
Difference	43	29,545	1	4	1	5	4

NORTH AND CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Archer	44	2,008	26	0	6	23	29
Baylor	2	0	2	0	0	0	0
Brown	1	0	1	0	1	4	5
Callahan	8	112	5	0	3	15	18
Clay	5	0	5	0	0	2	2
Coleman	1	0	1	0	1	4	5
Comanche	0	0	0	0	0	3	3
Collin	0	0	0	0	1	1	2
Cooke	32	2,979	15	0	7	36	43
Denton	0	0	0	0	0	4	4
Eastland	2	12	1	1	2	5	7
Erath	0	0	0	0	0	1	1
Foard	0	0	0	0	0	1	1
Grayson	0	0	0	0	0	3	3
Hamilton	0	0	0	0	0	3	3
Jack	17	488	4	1	3	20	23
Johnson	0	0	0	0	0	1	1
McCulloch	0	0	0	0	0	2	2
Mills	0	0	0	0	0	1	1
Montague	14	449	4	0	4	9	13
Palo Pinto	2	15	1	0	1	1	2
Parker	0	0	0	0	0	1	1
Shackelford	16	843	4	2	5	24	29
Stephens	2	3	1	0	2	3	5
Throckmorton	3	3	2	0	0	0	0
Wichita	32	1,161	14	0	14	23	37
Wilbarger	15	441	7	0	0	12	12
Wise	0	0	0	0	0	1	1
Young	52	2,166	34	1	21	26	47
Total June	248	10,670	127	5	71	229	300
Total May	261	17,981	122	1	63	220	283
Difference	13	7,311	5	4	8	9	17

GULF COAST

Texas

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Ace	1	349	0	0	0	1	1
Amelia	3	1,717	0	0	1	2	3
Anahuac	11	4,326	2	0	0	9	9
Arriola	0	0	0	0	0	1	1
Batson	0	0	0	0	0	2	2
Big Hill	0	0	0	0	0	1	1
Big Creek	0	0	0	0	0	1	1
Blue Ridge	4	435	2	0	0	0	0
Clay Creek	1	115	0	0	0	2	2
Cleveland	0	0	0	0	0	1	1
Coletto Creek	1	0	1	0	0	0	0
Conroe	3	1,730	1	0	0	0	0
Danbury	0	0	0	0	1	0	1
Dickinson	4	3,824	1	0	1	4	5
Esperson	1	113	0	0	0	2	2
Fairbanks	1	128	0	0	0	0	0
Fannett	1	0	1	0	0	1	1
Greta	0	0	0	0	1	0	1
Hankamer	1	82	0	0	0	1	1
Hardin	2	0	2	0	0	0	0
Hastings	8	4,566	0	0	2	4	6
Heyser	0	0	0	0	0	1	1
High Island	1	112	0	0	1	3	4
Hull	4	1,071	1	0	0	0	0
Keeran	1	288	0	0	0	0	0
Livingston	2	312	1	0	0	0	0
Louise	1	95	0	0	0	2	2
Manvel	3	300	1	0	0	3	3
Mykawa	1	0	1	0	0	1	1
Old Ocean	0	0	0	0	0	1	1
Orchard	1	0	1	0	0	2	2
Pickett Ridge	6	1,306	1	1	1	5	6
Pierce Jct.	0	0	0	0	0	3	3
Placedo	11	3,047	0	0	0	5	5
Quintana Area	1	1,333	0	0	0	0	0
Raccoon Bend	3	1,862	0	0	0	2	2
Refugio	4	626	0	0	0	6	6
Saratoga	1	0	1	0	0	1	1
Shepherds Mott	1	0	1	0	0	0	0
S. Houston	6	1,903	0	0	0	7	7
Splendora	1	0	1	0	0	0	0
Stratton Ridge	0	0	0	0	0	1	1
Thompson	0	0	0	0	0	2	2
Tomball	8	2,430	1	1	0	2	2
Tomoconnor	1	1,300	0	0	0	1	1
Turtle Bay	1	144	0	0	0	0	0
Van Vleck	2	1,200	0	0	0	4	4
W. Columbia	0	0	0	0	0	2	2
W. Withers	1	0	0	1	0	1	1
Withers	2	459	0	0	1	1	2
Misc.	15	0	15	0	9	24	33
Total June	120	35,173	35	3	18	112	130
Total May	105	35,170	25	1	25	105	130
Difference	15	3	10	2	7	7	0

Louisiana

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Dlg.	Ttl.
Bay St. Elaine	0	0	0	0	0	1	1
Bayou Bouillon	1	135	0	0	0	0	0
Bayou Mallet	1	130	0	0	0	1	1
Blk. Bayou	2	637	1	0	0	1	1
Caillou Isl.	2	1,326	0	0	0	2	2
Cameron Meadows	1	150	0	0	0	3	3
Choctaw	0	0	0	0	0	1	1
Darrow	1	394	0	0	0	1	1
Dog Lake	0	0	0	0	0	1	1
Four Isle	1	0	1	0	0	0	0
Gillis	7	3,477	1	0	1	5	6
Hackberry	4	836	1	0	2	3	5
Jeanerette	2	1,060	0	0	0	2	2
Jennings	3	1,368	0	0	0	1	1
Lafitte	0	0	0	0	0	2	2
Lake Barre	1	1,800	0	0	0	1	1
Lake Hermitage	0	0	0	0	0	1	1
Lake Pelto	0	0	0	0	0	1	1
Leesville	3	432	2	0	0	3	3
New Iberia	3	1,528	1	0	0	1	1
Port Barre	1	0	1	0	1	2	3
Roanoke	1	900	0	0	0	2	2
St. Martinsville	1	536	0	0	0	0	0
Sorrento	0	0	0	0	1	0	1
Sulphur	2	1,130	0	0	1	0	1
Tepetate	6	1,938	1	0	2	2	4
Vinton	0	0	0	0	0	1	1
Wh. Castle	0	0	0	0	0	1	1
Misc.	2	0	2	0	1	19	20
Total June	45	17,777	11	0	9	58	67
Total May	33	11,127	11	1	22	72	94
Difference	12	6,650	0	1	13	14	27

LOUISIANA-ARKANSAS

North Louisiana

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Bienville	0	0	0	0	3	0	3
Bossier	2	0	2	0	0	5	5
Caddo	30	15,632	3	0	13	51	64
Caldwell	0	0	0	0	0	4	4
Catahoula	0	0	0	0	0	1	1
Claiborne	0	0	0	0	1	2	3
Cordordia	0	0	0	0	0	1	1
DeSoto	2	15	1	0	1	3	4
Franklin	0	0	0	0	0	1	1
Grant	3	20	2	0	2	4	6
Jackson	0	0	0	0	2	0	2
LaSalle	1	10	0	0	0	1	1
Lincoln	0	0	0	0	0	2	2
Morehouse	6	0	0	6	3	7	10
Natchitoches	0	0	0	0	0	1	1
Ouachita	0	0	0	0	1	0	1
Red River	1	0	1	0	0	4	4
Richland	0	0	0	0	0	2	2
Sabine	3	40	2	0	1	8	9
Tensas	0	0	0	0	0	2	2
Union	3	0	0	3	2	3	5
Vernon	1	0	1	0	0	0	0
Webster	0	0	0	0	1	4	5
Total June	52	15,767	12	9	20	106	136
Total May	80	69,091	7	16	22	85	107
Difference	28	53,324	5	7	8	21	29

(*) Gas Production: Morehouse 28,000,000; Union 18,000,000.

Rodessa wells gauged by making one hour flow through ¼ to ½-inch tubing choke, and multiplying by 24.

Arkansas

Summary of Field Operations

County	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Arkansas	0	0	0	0	1	0	1
Ashley	0	0	0	0	0	0	0
Bradley	0	0	0	0	0	1	1
Calhoun	0	0	0	0	0	2	2
Clarke	1	0	1	0	0	0	0
Columbia	0	0	0	0	0	2	2
Crawford	0	0	0	0	0	1	1
Dallas	0	0	0	0	0	1	1
Hempstead	0	0	0	0	1	2	3
LaFayette	2	0	2	0	1	0	1
Little River	0	0	0	0	0	1	1
Miller	0	0	0	0	0	7	7

Ouachita ..	3	107	1	0	2	11	13
Union	2	0	2	0	3	7	10
Total June	6	107	6	0	5	35	43
Total May	9	535	6	1	14	32	46
Difference	1	541	0	1	6	3	3

East Texas (Border Counties)

Summary of Field Operations

County	Comp.	Prod.	Dry	Gas*	Rigs	Dig.	Ttl.
Bowie	1	0	1	0	0	5	5
Cass	5	5,712	0	0	4	14	18
Harrison .	1	0	0	1	2	2	4
Panola	0	0	0	0	0	2	2
Shelby	0	0	0	0	1	4	5
Total June	7	5,712	1	1	7	27	34
Total May	11	4,210	2	0	1	21	22
Difference	4	1,502	1	1	6	6	12

(*) Gas Production: Harrison, 1,574,000 feet.

Rodessa wells in Cass County gauged by making one hour flow through ¼ to ½-inch tubing choke, and multiplying by 24.

EAST CENTRAL AND EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Anderson ..	5	272	0	1	0	11	11
Angelina ..	0	0	0	0	1	4	5
Bowie	0	0	0	0	0	4	4
Cherokee ..	5	79	2	0	0	4	4
Ellis	1	0	1	0	0	0	0
Fannin	0	0	0	0	0	6	6
Franklin ..	1	24	0	0	1	6	7
Freestone .	0	0	0	0	0	2	2
Gregg	92	2,991	2	0	35	62	97
Henderson .	2	293	0	0	2	1	3
Hill	0	0	0	0	0	1	1
Hopkins ...	0	0	0	0	0	1	1
Kaufman ..	1	0	1	0	0	1	1
Lamar	1	0	1	0	2	3	5
Limestone .	0	0	0	0	0	3	3
McLennan .	1	0	1	0	0	0	0
Navarro ...	1	0	1	0	0	3	3
Rains	1	0	1	0	0	0	0
Red River .	0	0	0	0	1	4	5
Rockwall ..	0	0	0	0	0	2	2
Rusk	67	2,896	4	0	20	48	68
Smith	26	679	4	0	3	5	8
Titus	4	1,040	0	0	3	11	14
Upshur	36	875	4	0	9	36	45
Van Zandt .	4	897	1	0	1	3	4
Ttl. June	245	9,546	23	1	78	221	299
Ttl. May	236	8,748	24	1	104	196	300
Difference	9	798	1	0	26	25	1

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
LaFayette.	0	0	0	0	0	1	1
Bolivar ..	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Lauderdale	0	0	0	0	0	1	1
Rankin ...	1	0	1	0	0	1	1
Smith	0	0	0	0	0	1	1
Claiborne .	0	0	0	0	0	1	1
Jones	0	0	0	0	0	1	1
Lamar	0	0	0	0	0	1	1
Harrison ..	0	0	0	0	0	1	1
Total June	1	0	1	0	0	10	10
Total May	4	0	4	0	1	13	14
Difference	3	0	3	0	1	3	4

FLORIDA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Jackson ..	0	0	0	0	0	1	1
Lake	0	0	0	0	0	2	2
Nassau ...	0	0	0	0	0	1	1
Hillsboro'gh	0	0	0	0	0	1	1
Total June	0	0	0	0	0	5	5
Total May	0	0	0	0	1	4	5
Difference	0	0	0	0	1	1	0

ALABAMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Houston ..	0	0	0	0	0	1	1

Same for May.

ROCKY MOUNTAIN AREA

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Adams	0	0	0	0	0	2	2
Archuelta .	1	1,000	0	0	1	5	6
Costilla ..	1	0	1	0	0	1	1
Huerfano .	1	0	1	0	0	0	0
Jefferson .	0	0	0	0	1	1	2
Larimer ..	0	0	0	0	0	2	2
Moffat ...	0	0	0	0	2	2	4
Park	0	0	0	0	0	2	2
Washington	0	0	0	0	0	1	1
Weld	0	0	0	0	1	1	2
Yuma	0	0	0	0	0	1	1
Misc.	0	0	0	0	0	13	13
Total June	3	1,000	2	0	5	31	36
Total May	2	1,626	0	0	7	30	37
Difference	1	626	2	0	2	1	1

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Albany ...	1	422	0	0	1	1	2
Big Horn .	0	0	0	0	2	12	14
Carbon ...	1	0	1	0	1	6	7
Converse ..	0	0	0	0	0	3	3
Fremont ..	0	0	0	0	0	2	2
Hot Springs	1	690	0	0	0	2	2
Lincoln ..	0	0	0	0	0	3	3
Niobrara .	3	4,229	0	0	2	10	12
Park	0	0	0	0	0	2	2
Sweetewat'r	0	0	0	0	0	2	2
Uinta	0	0	0	0	0	3	3
Washakie .	1	15	0	0	0	3	3
Weston ...	2	23	0	0	1	1	2
Misc.	0	0	0	0	2	2	3
Total June	9	5,389	1	0	9	51	60
Total May	9	2,076	3	0	8	54	62
Difference	0	3,313	2	0	1	3	2

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Big Horn .	1	0	1	0	0	0	0
Fallon ...	0	0	0	0	1	0	1
Fergus ...	0	0	0	0	0	4	4
Glacier ...	14	1,436	1	0	9	22	31
Petroleum.	0	0	0	0	0	3	3
Pondera .	0	0	0	0	1	5	6
Toole	11	163	2	1	3	22	25
Misc.	0	0	0	0	0	8	8
Total June	26	1,599	4	1	14	64	78
Total May	24	1,481	2	2	15	72	87
Difference	2	188	2	1	1	8	9

Utah

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Grand	1	0	1	0	0	2	2
Misc.	0	0	0	0	2	4	6
Total June	1	0	1	0	2	6	8
Motal May	0	0	0	0	1	8	9
Difference	1	0	1	0	1	2	1

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bernalillo ..	0	0	0	0	0	2	2
McKinley ..	1	0	1	0	0	6	6
Rio Arriba..	0	0	0	0	1	1	2
Santa Fe ...	0	0	0	0	0	2	2
Torrance ...	0	0	0	0	0	1	1
San Juan ..	2	0	1	1	0	7	7
Valencia ...	0	0	0	0	0	3	3
Lea	55	67,596	2	1	17	89	106
Eddy	3	309	1	0	1	6	7
Chaves	1	0	1	0	0	1	1
Harding ...	0	0	0	0	0	2	2
De Baca ...	0	0	0	0	0	1	1
Total June	62	67,905	6	2	19	121	140
Total May	49	48,969	7	1	15	124	139
Difference	13	18,936	1	1	4	3	1

EASTERN FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bradford ...	188	216	1	0	15	85	100
Allegany ...	110	107	0	0	2	7	9
Middle field	18	93	0	0	3	14	17
Butler-Armstrong ...	7	3	3	0	4	5	9
S.W. Pa. ...	13	85	2	8	12	42	54
S.E. Ohio ...	51	222	15	13	21	73	94
W. Virginia.	46	8	10	32	34	166	200
Total June	433	734	31	53	91	392	483
Total May	256	609	20	50	64	287	351
Difference	177	125	11	3	27	105	132

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Wood	1	0	0	1	0	3	3
Henry	0	0	0	0	0	2	2
Hancock ..	0	0	0	0	0	1	1
Mercer ...	0	0	0	0	0	1	1
Sandusky .	0	0	0	0	0	4	4
Seneca	2	0	0	2	1	6	7
Wyandot ..	2	0	2	0	1	8	9
Putnam ...	1	25	0	0	1	1	2
Logan	0	0	0	0	0	1	1
Hardin ...	2	0	0	2	0	2	2
Darke	0	0	0	0	0	3	3
Ttl. June	8	25	2	5	3	32	35
Ttl. May.	2	0	0	2	2	41	43
Difference	6	25	2	3	1	9	8

CENTRAL OHIO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Lorain ...	1	0	0	1	8	14	22
Wayne ...	2	0	0	2	3	4	7
Allen	0	0	0	0	0	8	8
Ashland ..	2	0	0	2	1	5	6
Holmes ...	2	0	0	2	5	8	13
Summit ...	1	0	0	1	2	8	10
Coshocton..	1	0	0	1	2	7	9
Huron	0	0	0	0	0	1	1
Stark	2	0	1	1	3	27	30
Gallia	0	0	0	0	0	4	4
Scioto	1	0	0	1	0	3	3
Pike	1	0	0	1	0	4	4
Lawrence .	0	0	0	0	2	2	4
Delaware .	0	0	0	0	0	1	1
Cuyahoga .	1	0	1	0	2	2	4
Perry	3	25	1	1	2	8	10
Hocking ..	1	0	1	0	1	2	3
Ttl. June	18	25	4	13	31	108	130
Ttl. May.	17	53	4	10	34	78	112
Difference	1	28	0	3	3	30	27

KENTUCKY

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Ohio	13	223	5	0	0	3	3
McLean ...	11	473	8	0	0	10	10
Muhlenberg	1	30	0	0	0	2	2
Ttl June	25	726	13	0	0	20	20
Ttl. May.	18	743	7	0	5	13	18
Difference	7	17	13	0	0	20	20

INDIANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Daviess ...	1	0	0	1	0	0	0
Hancock ..	1	0	0	1	0	0	0
Huntington	0	25	0	0	0	0	0
Knox	1	0	0	1	0	2	2
Perry	4	30	0	3	0	0	0
Pike	3	80	1	0	0	0	0
Shelby	0	0	0	0	0	1	1
Spencer ...	0	0	0	0	0	1	1
Vanderburg	4	150	3	0	0	4	4
Madison ..	0	0	0	0	0	1	1
Decatur ..	1	0	0	1	0	1	1
Jay	0	0	0	0	0	2	2
Johnson ..	0	0	0	0	0	1	1
Posey	0	0	0	0	0	1	1
Vigo	0	0	0	0	0	1	1
Ttl. June	16	285	4	7	0	15	15
Ttl. May.	9	20	5	3	1	14	15
Difference	7	265	1	4	1	1	0

MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Dig.	Ttl.
Alcona	0	0	0	0	1	1	2
Alpena	0	0	0	0	0	1	1
Arenac	1	0	1	0	2	0	2
Bay	0	0	0	0	0	1	1
Chippewa ..	0	0	0	0	0	1	1
Clare	0	0	0	0	1	0	1
Clinton	0	0	0	0	1	1	2
Crawford ..	1	0	1	0	0	0	0
Genesee	0	0	0	0	2	0	2
Gladwin ..	4	250	2	0	1	5	6
Grand Traverse .	1	0	1	0	0	0	0
Gratiot	4	0	1	3	4	7	11
Ingham ...	0	0	0	0	1	0	1
Ionia	1	0	1	0	1	1	2
Isabella ...	3	353	1	0	5	6	11
Kent	0	0	0	0	2	0	2
Lake	0	0	0	0	0	1	1
Lapeer	1	0	1	0	1	0	1
Lenawee ..	1	25	0	0	0	3	3
Livingston .	0	0	0	0	2	0	2
Macomb ..	0	0	0	0	1	0	1
Manistee ..	0	0	0	0	0	2	2
Mason	0	0	0	0	0	4	4
Mecosta ...	11	0	0	11	3	11	14
Midland ...	11	2,855	1	0	11	26	37
Missaukee .	0	0	0	0	1	1	2
Monroe	1	0	1	0	1	3	4
Montcalm .	37	2,455	9	17	11	41	52
Muskegon .	0	0	0	0	1	1	2
Newaygo ..	1	0	1	0	1	0	1
Oceana ...	0	0	0	0	2	1	3
Ogemaw ..	10	940	1	0	3	9	12
Otsego	0	0	0	0	1	0	1
Saginaw ...	6	8	5	0	0	2	2
St. Clair ..	0	0	0	0	2	1	3
St. Joseph .	0	0	0	0	1	0	1
Shiawassee .	2	10	1	0	2	0	2
Tuscola ...	0	0	0	0	0	2	2
Wayne	0	0	0	0	1	1	2
Ttl. June.	96	6,896	28	31	65	133	198
Ttl. May .	65	4,580	16	21	63	122	185
Difference	31	2,316	12	10	2	11	13

Kansas Fields

Continued from Page 75)

location for a wildcat in northeastern Pawnee County.

Marion County

Empire Oil & Refining Co. No. 1 Schmidt, NW NW SE section 31-20-2, wildcat in southwestern Marion County, was moving in material.

Rush County

Ira Keith and others No. 1 Dartmouth Savings Bank, SW SW NE section 3-17-18w, topped Granite at 3,673 feet and was dry and abandoned at 3,705 feet, total depth. Total depth originally was reported as 3,665 feet.

Morgan & Flynn and others No. 2 Gisick, SE cor. section 25-18-16w, was a location.

Southwest Pipe Rate Committee Revived

At a conference of traffic men representing southwestern oil companies and chambers of commerce, held in Dallas, Tex., steps were taken to revive the Southwestern Pipe Consumers Committee to represent users of wrought iron and steel pipe and casing in the rate proceedings before the Interstate Commerce Commission.

A similar organization was formed in 1928 and 1929, when the decision of the Interstate Commerce Commission in the Southwestern class rate cases was made in which a higher basis of rates on pipe was prescribed on shipments from, to, and within southwestern territory.

Following the committee's representations the commission withheld its decision, but continued suspension of the increased rates, leaving in effect the rates existing prior to its decision of 1928, which was generally satisfactory to the consumers of pipe in the southwest.

Recently the commission announced its intention to take further evidence on rates on wrought iron and steel pipe to and within the southwest, vacating its order of 1928 in the Southwestern class rate cases, which affected increases in pipe rates, discontinuing proceedings on the suspension docket, and setting the pipe rates for hearing under a new case assigned as I.C.C. Docket No. 27401. The record made by all parties under the suspension docket in 1929 and 1930 was made a part of the record and a hearing was set for Galveston, Tex., on June 9.

Interested traffic men met at the Chamber of Commerce in Tulsa to form a temporary organization representing Oklahoma interests to prepare and present evidence. J. L. Burke, traffic manager, Stanolind Pipe Line Co., Tulsa, was selected chairman and W. W. Klingensmith, traffic manager of the Tulsa Chamber of Commerce, vice chairman. A joint meeting with the Texas, Louisiana, and Arkansas interests was to have been held at Dallas June 6, but, the railroads petitioned the commission for postponement of the hearing and the commission set hearing at Chicago on October 14 and at Galveston, Tex., October 19.

The former Southwestern Pipe Consumers Committee having been dissolved during the six years the case was held in abeyance by the commission, it was decided at the Dallas meeting to revive the committee. J. L. Burke, traffic manager, Stanolind Pipe Line Co., Tulsa, was named general chairman for the southwest. W. M. Maddox, traffic manager, Magnolia Petroleum Co., Dallas, vice chairman for Texas and Louisiana; W. W. Klingensmith, traffic manager, Tulsa Chamber of Commerce, vice chairman for Oklahoma; and J. R. Davis, traffic manager, Humble Oil & Refining Co., Houston, vice chairman for South Texas. R. C. Fulbright was retained as counsel and statistical data on the oil industry's interest is again being prepared in co-operation with C. B. Mapes, secretary, and Glen W. Patchett, statistician of the Mid-Continent Oil and Gas Association.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 16 Capitan, Santa Barbara Co.	32- 5-30	1,739	flow. 230 b.d.
Shell Oil Co., No. 17 Capitan, Santa Barbara Co.	32- 5-30	2,075	sd. sh. drlg.
General Pet. Corp., No. 16 Capitan, Santa Barbara Co..	32- 5-30	881	sd. sh. drlg.
La Canada Oil Co., No. 2 Capitan, Santa Barbara Co..	35- 5-30	835	sd. sh. drlg.
Barnsdall-Rio Grande, No. 8A-88 Elwood, S. Barbara..	tideland	3,847	P.B. 3,786
Union Oil Co., No. 7 Santa Maria, Santa Barbara Co...	24-10-34	1,640	sd. sh. drlg.
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	3,996	bailing
Fields, O. C., No. 1 Lompoc, Santa Barbara Co.	11- 7-32	1,576	hd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ..	25-10-35	5,000	hd. sh. drlg.
Top Row Oil Co., No. 1 Lompoc, Santa Barbara Co. ..	10- 6-35	200	sd. sh. drlg.
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara.	tideland	5,510	redrlg. 3,150
Huseley & Harsett, No. 1 Mesa, Santa Barbara Co....	28- 4-27	580	sd. sh. drlg.
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	6,561	bailing
Duke Oil Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	5,635	recmtd. 1,925
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	576	cleaning out
Supreme Oil Co., No. 1 Sespe, Ventura Co.	1- 4-20	946	sd. sh. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,376	reaming
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	2,001	hd. sd. drlg.
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	541	cmtd. 541
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co. ..	32- 4-19	1,275	cleaning out
Petroleum Securities, No. 1 Shiells Canyon, Ventura ..	3- 3-19	3,899	to deepen
The Texas Co., No. 130 Shiells Canyon, Ventura Co....	4- 3-19	3,799	prod. test
The Texas Co., No. 131 Shiells Canyon, Ventura Co....	4- 3-19	3,355	flow. 305 b.d.
El Rancho Oil Co., No. 1 Shiells Canyon, Ventura Co...	9- 3-19	4,786	gr. sd. drlg.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co...	6- 4-18	1,660	repair. rig
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co.	4- 4-18	3,300	cleaning out
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	851	sd. sh. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	8,336	sd. sh. drlg.
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-23	8,374	sd. sh. drlg.
Continental Oil Co., No. 5 San Miguelito, Ventura Co...	24- 3-24	6,500	O.S. drlg.
C. C. M. Oil Co., No. 1 Ventura Co.	15- 3-24	4,813	recmtd. 4,600
Honolulu Oil Corp., No. 1 South Mountain, Ventura..	23- 3-21	1,282	sd. sh. drlg.
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,887	fish. D.P.
East Puente Oil Co., No. 22 McKittrick, Kern Co.	11-30-21	1,065	sd. sh. drlg.
Calcrude Pet. Co., No. 1 McKittrick, Kern Co.	34-30-22	1,504	P.B. 1,460
Welport Oil Co., No. 15 McKittrick, Kern Co.	26-29-21	1,076	O.S. drlg.
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	1,254	sd. sh. drlg.
Rio Grande Oil Co., No. 1 Belridge, Kern Co.	18-28-20	1,175	sd. sh. drlg.
Standard Oil Co., No. 4 North Belridge, Kern Co.	36-27-20	8,475	sd. sh. drlg.
Associated Oil Co., No. 5 North Belridge, Kern Co. ..	34-27-20	7,097	hd. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co...	35-27-20	8,085	O.S. drlg.
Belridge Oil Co., No. 17-35 North Belridge, Kern Co...	35-27-20	8,150	cmtd. 8,150
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,684	P.B. 9,165
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	8,306	cmtd. 8,293
C. C. M. Oil Co., No. 19 Kern Front, Kern Co.	23-28-27	2,154	pump. 175 b.d.
Republic Pet. Co., No. 15 Kern Front, Kern Co.	11-28-27	1,775	sd. sh. drlg.
Seven Spot Oil Co., No. 1 Kern Front, Kern Co.	13-28-27	1,228	P.B. 1,205
Standard Oil Co., No. 11 Kern Front, Kern Co.	5-28-27	2,885	cleaning out
National Oil Co., No. 7 Kern Front, Kern Co.	11-28-27	1,848	pump. 140 b.d.
American Expl. Co., No. 1 Kern Front, Kern Co.	16-28-27	2,862	rig. to pump
Ohio Oil Co., No. 12 Premier, Kern Co.	32-27-27	2,786	cmtd. 2,603
Ausbrit Oil Co., No. 1 Premier, Kern Co.	20-27-27	2,139	P.B. 2,075
McAdams Oil Co., No. 1 Dominion, Kern Co.	32-26-28	1,120	sd. sh. drlg.
Modoc Pet. Co., No. 1 Dominion, Kern Co.	28-26-28	1,537	rig. to pump
Santa Carla Oil Co., No. 1 Dominion, Kern Co.	19-26-28	1,850	sd. sh. drlg.
Union Oil Co., No. 11 Mount Poso Tribe, Kern Co.	28-27-28	1,778	pump. 190 b.d.
Bargol Oil Co., No. 1 Mount Poso, Kern Co.	11-27-27	3,324	dry; abd.
Tilton & Harp, No. 1 Mount Poso, Kern Co.	6-27-28	2,450	dry; abd.
Cochran Oil Co., No. 1 Jasmine, Kern Co.	31-25-27	2,239	fish. D.P.
Doyle Pet. Co., No. 1 Jasmine, Kern Co.	15-25-27	110	sd. sh. drlg.
Elbee Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	212	sd. sh. drlg.
Mosebach Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,112	pump. water
Trico Oil & Gas Co., No. 1 Fruitvale, Kern Co.	28-29-27	3,244	P.B. 3,235
Exeter Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	2,181	sd. sh. drlg.
H. L. J. Oil Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,765	rig. to pump
Magnet Oil Co., No. 3 Fruitvale, Kern Co.	21-29-27	4,070	cmtd. 4,031
Western Gulf Oil Co., No. 24 Fruitvale, Kern Co.	22-29-27	3,597	cleaning out
Western Gulf Oil Co., No. 26 Fruitvale, Kern Co.	27-29-27	3,524	P.B. 3,493
Western Gulf Oil Co., No. 27 Fruitvale, Kern Co.	27-29-27	3,391	sd. sh. drlg.
Mohawk Oil Co., No. 17 Fruitvale, Kern Co.	23-29-27	3,435	sd. sh. drlg.
Mohawk Oil Co., No. 18 Fruitvale, Kern Co.	11-29-27	2,194	sd. sh. drlg.
Tarr & McComb, No. 3 Fruitvale, Kern Co.	23-29-27	3,190	cleaning out
Nydia Pet. Co., No. 1 Fruitvale, Kern Co.	26-29-27	3,568	rig. to pump
Allied Pet. Co., No. 19 Mountain View, Kern Co.	19-30-29	4,171	sd. sh. drlg.
Hogan Pet. Co., No. 16 Mountain View, Kern Co.	32-30-29	5,685	fish. D.P.
Hogan Pet. Co., No. 17 Mountain View, Kern Co.	29-30-29	3,170	sd. sh. drlg.
Standard Oil Co., No. 30 Mountain View, Kern Co. ..	18-30-29	5,184	sd. sh. drlg.
Buffalo Oil Co., No. 2 Mountain View, Kern Co.	19-30-29	4,880	flow. 640 b.d.
Wood-Callahan Oil Co., No. 4 Mountain View, Kern Co.	24-30-28	3,369	sd. sh. drlg.
Fullerton Oil Co., No. 1 Mountain View, Kern Co.	18-30-29	3,283	sd. sh. drlg.
Shell Oil Co., No. 11 Mountain View, Kern Co.	32-30-29	5,880	flow. 654 b.d.
Shell Oil Co., No. 12 Mountain View, Kern Co.	32-30-29	161	sd. drlg.
Mohawk Pet. Co., No. 1 Arvin, Kern Co.	10-31-29	5,798	gr. sd. drlg.
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	8,559	sd. sh. drlg.
Barnsdall Oil Co., No. 5 Round Mountain, Kern Co...	7-28-29	1,964	pump. 230 b.d.
Shell Oil Co., No. 9 Round Mountain, Kern Co.	7-28-29	1,548	pump. 230 b.d.
Shell Oil Co., No. 15 Round Mountain, Kern Co.	20-28-29	1,645	rig. to pump
Petroleum Securities, No. 5 Round Mountain, Kern Co.	6-28-29	1,575	cmtd. 1,535
Honolulu Oil Corp., No. 34 Round Mountain, Kern Co.	18-28-29	2,947	cmtd. 1,982
Honolulu Oil Corp., No. 11 Round Mountain, Kern Co.	20-28-29	1,827	pump. 382 b.d.
Corbett, R. E., No. 1 Edison, Kern Co.	23-30-29	1,551	sd. sh. drlg.
Edison Holding Co., No. 1 Edison, Kern Co.	10-30-29	532	sd. sh. drlg.
Marley, W. F., No. 1 Edison, Kern Co.	19-30-30	761	sd. sh. drlg.
Jergins Trust, No. 25 Edison, Kern Co.	14-30-29	1,855	cleaning out
Jergins Trust, No. 26 Edison, Kern Co.	23-30-29	2,139	cmtd. 1,936
Jergins Trust, No. 27 Edison, Kern Co.	23-30-29	1,171	sd. sh. drlg.
Higgins, W. F., No. 1 Edison, Kern Co.	17-30-29	4,043	sd. sh. drlg.
M. & L. Oil Co., No. 1 Edison, Kern Co.	23-30-29	2,078	will perforate
The Texas Co., No. 1 San Emidio, Kern Co.	11-11-22	7,896	hd. sh. drlg.
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-23	830	sd. sh. drlg.
Shell Oil Co., No. 2 Stevens, Kern Co.	29-30-26	3,791	sd. sh. drlg.
Elk Hills Pet. Co., No. 1 Elk Hills, Kern Co.	14-31-24	3,583	sd. sh. drlg.
Fenray Oil Co., No. 1 Midway-Sunset, Kern Co.	34-32-24	753	sd. sh. drlg.
C. C. M. Oil Co., No. 1-28 Midway-Sunset, Kern Co.	28-32-23	1,775	sd. sh. drlg.
Evans, H. B., No. 11 Midway-Sunset, Kern Co.	35-32-23	1,082	sd. sh. drlg.
Foster, R. A., No. 1 Midway-Sunset, Kern Co.	2-32-23	4,425	cleaning out
Gibson Oil Co., No. 2 Midway-Sunset, Kern Co.	6-11-23	2,816	to deepen
Gibson Oil Co., No. 5 Midway-Sunset, Kern Co.	8-11-23	3,085	cmtd. 3,024
General Pet. Corp., No. 335 Midway-Sunset, Kern Co...	35-12-24	1,650	pump. 110 b.d.
General Pet. Corp., No. 61 Midway-Sunset, Kern Co....	24-31-23	1,985	sd. sh. drlg.
Honolulu Oil Corp., No. 32 Midway-Sunset, Kern Co. ..	14-32-24	5,052	will redrl.
North American Oil Co., No. 2 Midway-Sunset, Kern..	2-32-24	3,996	sd. sh. drlg.
Signal Oil Co., No. 6 Midway-Sunset, Kern Co.	8-11-23	3,562	sd. sh. drlg.
Hoyt, Otis, No. 2 Midway-Sunset, Kern Co.	1-11-24	291	sd. sh. drlg.
Standard Oil Co., No. 9 Midway-Sunset, Kern Co.	5-11-23	3,630	reaming
Standard Oil Co., No. 55 Midway-Sunset, Kern Co. ...	33-32-24	3,310	cleaning out
Alford Oil Co., No. 6 Midway-Sunset, Kern Co.	25-12-24	1,162	sd. sh. drlg.
Burkholder Oil Corp., No. 1 Midway-Sunset, Kern Co...	23-32-23	2,536	cmtd. 2,125
Safeway Oil Co., No. 1 Midway-Sunset, Kern Co.	26-32-23	1,986	sd. sh. drlg.
Stimson Oil Co., No. 1 Midway-Sunset, Kern Co.	27-32-23	1,775	sd. sh. drlg.
Union Oil Co., No. 8 Midway-Sunset, Kern Co.	25-12-24	2,507	fish. csg.
Obispo Oil Co., No. 12 Midway-Sunset, Kern Co.	32-12-23	3,842	to deepen
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co. ...	22-32-24	3,310	redrlg. 2,550
Jerman, R. W., No. 1 Midway-Sunset, Kern Co.	31-12-23	4,128	P.B. 2,780
Ohio Oil Co., No. 1 Tejon, Kern Co.	36-11-19	4,563	sd. sh. drlg.
Hall Baker Co., No. 1 Tejon, Kern Co.	35-11-19	2,191	sd. sh. drlg.
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	23-32-29	2,457	sd. sh. drlg.
Reserve Oil & Gas Co., No. 5 Tejon, Kern Co.	33-11-19	1,840	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	7,360	sd. sh. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	1,120	suspended
Standard Oil Co., No. 2 South Coalinga, Fresno Co. ..	31-21-15	1,321	sd. sh. drlg.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P.B. 10,729
K. N. D. A., No. 2 Kettleman North, Fresno Co.	20-21-17	8,597	hd. sd. drlg.
K. N. D. A., No. 38 Kettleman North, Fresno Co.	18-21-17	8,342	fish. D.P.
K. N. D. A., No. 43 Kettleman North, Fresno Co.	30-21-17	7,240	sd. sh. drlg.
K. N. D. A., No. 74 Kettleman North, Fresno Co.	30-21-17	8,685	sd. sh. drlg.
K. N. D. A., No. 81 Kettleman North, Fresno Co.	24-21-16	8,330	cleaning out
K. N. D. A., No. 83 Kettleman North, Fresno Co.	24-21-16	7,687	br. sh. drlg.
K. N. D. A., No. 36 Kettleman North, Kings Co.	36-22-18	7,925	flow. 404 b.d.
K. N. D. A., No. 21 Kettleman North, Fresno Co.	34-21-17	8,101	sd. sh. drlg.
Standard Oil Co., No. 38 Kettleman North, Fresno Co.	27-21-17	7,896	sd. sh. drlg.
Standard Oil Co., No. 25 Kettleman North, Fresno Co.	19-21-17	8,172	sd. sh. drlg.
Standard Oil Co., No. 43 Kettleman North, Fresno Co.	19-21-17	8,020	recmtd. 7,985
Standard Oil Co., No. 56 Kettleman North, Fresno Co.	19-21-17	8,021	O.S. drlg.
Standard Oil Co., No. 65 Kettleman North, Fresno Co.	19-21-17	8,186	O.S. drlg.
Standard Oil Co., No. 72 Kettleman North, Fresno Co.	19-21-17	8,131	P.B. 8,090
Standard Oil Co., No. 78 Kettleman North, Fresno Co.	29-21-17	8,185	flow. 992 b.d.
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	2,154	sd. sh. drlg.
Hurndall, John, No. 1 Pyramid Hills, Kings Co.	16-24-18	1,986	cleaning out
Commonwealth Consd. Gas., No. 2 Tulare Lake, Kings	21-22-20	2,506	hd. sh. drlg.
Associated Oil Co., No. 1 Avenal, Kings Co.	35-23-17	1,895	sd. sh. drlg.
Taft Well Drlg. Co., No. 1 Pismo, San Luis Obispo Co.	2-32-21	1,506	hd. sh. drlg.
United Oil Co., No. 2 Panorama, San Luis Obispo Co..	31-31-13	4,296	P.B. 1,500
Martin, J. D., No. 4 Pismo, San Luis Obispo Co.	5-32-13	3,002	sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co.	5-32-13	3,910	sd. sh. drlg.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,850	redrlg. 1,565
Jergins Trust, No. 1 Pismo, San Luis Obispo Co.	5-32-13	1,000	sd. sh. drlg.
Barnsdall Oil, No. 1 Carissa Plains, San Luis Obispo..	24-28-17	3,730	sd. sh. drlg.
Burch, I. L., No. 1 Cuyama, San Luis Obispo Co.	4-10-26	299	sd. sh. drlg.
Standard Oil Co., No. 2 McDonald Island, San Joaquin	25- 2- 4	182	sd. sh. drlg.
Pure Oil Co., No. 4 Chowchilla, Madera Co.	20-10-14	4,851	sd. sh. drlg.
Northern Counties Pet., No. 1 Tehama, Tehama Co. ..	25-24- 3	8,030	will abd.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	8,994	P.B. 8,750
The Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	4,428	fish. D.P.
Fortine, W. H., No. 1 Terra Bella, Tulare Co.	22-22-26	3,085	will P.B.
Associated Oil Co., No. 1 Sargent, San Benito Co. ..	5-12- 4	141	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Marvin, J. L., No. 1 El Segundo, Los Angeles Co. ..	7- 3-14	7,521	C.P. 7,450
Ohio Oil Co., No. 1 El Segundo, Los Angeles Co.	7- 3-14	6,796	sd. sh. drlg.
Shell Oil Co., No. 1 Torrance, Los Angeles Co.	33- 3-14	3,696	sd. sh. drlg.
McDowell, O. B., No. 1 Torrance, Los Angeles Co.	35- 3-14	4,633	cleaning out
Clark, T. R., No. 1 Torrance, Los Angeles Co.	23- 4-14	3,875	rigging up
Roach, W. C., No. 2 Torrance, Los Angeles Co.	6- 4-14	3,405	cmtd. 3,265
Sterling Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,605	pump. 130 b.d.
Linderman Oil Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	2,775	sd. sh. drlg.
Dumas-Lewis Oil Co., No. 2 Torrance, Los Angeles Co.	6- 4-14	3,360	sd. sh. drlg.
Tu-Jax Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	1,163	sd. sh. drlg.
Nelson Pet. Co., No. 1 Hermosa, Los Angeles Co.	18- 4-14	4,474	br. sh. drlg.
Lawler Pet. Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	3,525	cmtd. 3,260
The Texas Co., No. 6 Redondo, Los Angeles Co.	5- 4-14	3,269	cmtd. 3,269
Continental Royalties, No. 1 Torrance, Los Angeles Co.	6- 4-14	3,573	pump. 162 b.d.
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co. ..	8- 4-14	4,854	will abd.
Standard Oil Co., No. 19 Inglewood, Los Angeles Co...	17- 2-14	3,585	sd. sh. drlg.
Shell Oil Co., No. 22 Inglewood, Los Angeles Co.	8- 2-14	3,643	O.S. drlg.
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	9,001	squeeze job
Crude Oil Drlg. Co., No. 1 Dominguez, Los Angeles Co.	31- 3-13	120	sd. sh. drlg.
Shell Oil Co., No. 7 Dominguez Reyes, Los Angeles Co.	33- 3-13	6,550	cmtd. 6,550
Shell Oil Co., No. 84 Dominguez Reyes, Los Angeles Co.	33- 3-13	1,931	sd. sh. drlg.
Union Oil Co., No. 8 Dominguez Carson, Los Angeles.	33- 3-13	7,306	fish. D.P.
Union Oil, No. 47 Dominguez Callender, Los Angeles..	33- 3-13	7,160	sd. sh. drlg.
Union Oil Co., No. 42 Dominguez Hellman, Los Angeles	33- 3-13	4,960	sd. sh. drlg.
Union Oil, No. 38 Dominguez Callender, Los Angeles..	33- 3-13	7,200	sd. sh. drlg.
Barnsdall Oil Co., No. 15 Rosecrans, Los Angeles Co...	18- 3-13	6,383	reaming
Republic Pet. Co., No. 1 Rosecrans, Los Angeles Co...	18- 3-13	5,936	O.S. drlg.
Associated Oil Co., No. 18 Seal Beach, Los Angeles Co.	11- 5-12	6,605	cmtd. 6,410
Continental Oil Co., No. 39 Seal Beach, Los Angeles Co.	11- 5-12	5,293	sd. sh. drlg.
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 2-15	7,436	cleaning out
Del Rey Drlg. Co., No. 1 Del Rey, Los Angeles Co. ..	27- 2-15	4,296	sd. sh. drlg.
Union Oil Co., No. 23 Del Rey, Los Angeles Co.	27- 2-15	5,440	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	2,252	sd. sh. drlg.
Holbrook Pet. Co., No. 1 Newhall, Los Angeles Co. ..	28- 4-16	810	sd. sh. drlg.
Hull, James, No. 1 Wilmington, Los Angeles Co.	20- 4-13	4,012	cmtd. 3,860
Codri Oil Co., No. 1 Wilmington, Los Angeles Co.	29- 4-13	3,901	P.B. 3,710
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	3,797	sd. sh. drlg.
Monarch Oil Corp., No. 1 Topango Canyon, Los Angeles	5- 1-16	1,530	sd. sh. drlg.
Standard Oil Co., No. 82 Montebello, Los Angeles Co...	2- 2-12	8,897	hd. sh. drlg.
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co....	5- 2-11	6,130	deepening
Standard Oil Co., No. 86 Montebello, Los Angeles Co...	2- 2-12	3,200	P.B. 2,780
Universal Consd., No. 7 Montebello, Los Angeles Co...	5- 2-11	5,895	sd. sh. drlg.
Universal Consd., No. 8 Montebello, Los Angeles Co...	5- 2-11	3,561	sd. sh. drlg.
Richfield Oil Co., No. 2 Montebello, Los Angeles Co...	5- 2-11	7,560	P.B. 5,890
Richfield Oil Co., No. 3 Montebello, Los Angeles Co...	5- 2-11	2,791	sd. sh. drlg.
North American, No. 2 Montebello, Los Angeles Co...	5- 2-11	6,302	idle
Keystone Oil Co., No. 1 Pico, Los Angeles Co.	9- 2-11	4,472	sd. sh. drlg.
Bandini Pet. Co., No. 14 Santa Fe Springs, Los Angeles	6- 3-11	8,069	C.P. 4,730
General Pet., No. 46-D Santa Fe Springs, Los Angeles.	6- 3-11	4,140	recmtd. 4,135
General Pet., No. 137-F Santa Fe Springs, Los Angeles	5- 3-11	5,489	P.B. 5,178
Twin Bell Synd., No. 3 Santa Fe Springs, Los Angeles	5- 3-11	4,080	P.B. 3,975
Union Oil Co., No. 21 Santa Fe Springs, Los Angeles..	5- 3-11	4,500	bailing
Bernstein, M. E., No. 1 Artesia, Los Angeles Co.	25- 3-12	5,888	fishing
McVicar & Rood, No. 1 San Jose Hills, Los Angeles Co.	6- 2- 9	3,120	cmtd. 875
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co...	36- 5- 5	2,510	hd. sd. drlg.
Terry, Geo., No. 1 Sunset Beach, Orange Co.	17- 5-11	5,350	dry; abd.
Hillman & Long, No. 1 Westminister, Orange Co. ..	14- 5-11	7,701	cmtd. 5,557
Five Point Oil Co., No. 1 Huntington, Orange Co.	36- 5-11	3,997	sd. sh. drlg.
Shell Oil Co., No. 1 Anaheim, Orange Co.	7- 6-10	1,654	sd. sh. drlg.
Shell Oil Co., No. 19 Brea, Orange Co.	2- 3-10	1,161	sd. sh. drlg.
West American Oil Co., No. 1 East Coyote, Orange Co.	24- 3-10	4,381	sd. sh. drlg.
Daly Oil Co., No. 1 East Coyote, Orange Co.	20- 3- 9	2,820	cmtd. 2,750
Union Oil Co., No. 22 Chapman Richfield, Orange Co.	30- 3- 9	4,200	sd. sh. drlg.
Union Oil Co., No. 29 Chapman Richfield, Orange Co	30- 3- 9	5,233	cleaning out
Union Oil Co., No. 30 Chapman Richfield, Orange Co.	30- 3- 9	2,140	sd. sh. drlg.
Union Oil Co., No. 31 Chapman Richfield, Orange Co	30- 3- 9	4,475	cleaning out
Calif. Eastern Oil Co., No. 1 Placentia, Orange Co....	31- 3- 9	4,520	redrlg. 3,965
Tehama Pet. Co., No. 2 Kraemer, San Bernardino Co...	33- 2- 8	566	sd. sh. drlg.
Tehama Pet. Co., No. 3 Kraemer, San Bernardino Co...	3- 3- 8	467	hd. sh. drlg.
Tehama Pet. Co., No. 4 Kraemer, San Bernardino Co...	32- 2- 8	401	hd. sd. drlg.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10- 5	2,421	hd. sd. drlg.

KANSAS

Week Ending July 18 (Descriptions are East unless marked otherwise)

Barber County

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Drlg. 40 ft.

Barton County

J. A. Brouk et al No. 1 Keil, SE SE NE sec. 11-16-15w. Drlg. 2,940 ft.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Drlg. 100 ft.

Davidson et al No. 1 Birzer, SW SE SW sec. 22-17-12w. H.F.W. 3,425-30 ft. T.D. Dry and abd.

G. H. Rose and W. H. Lant No. 1 Redetzke, NE NW NW sec. 1-16-11w. Drlg. 735 ft.

Rose Spring Drlg. Co. et al No. 1 Rick, SW cor. sec. 1-19-11w. Siliceous 3,316 ft.; drlg. 3,323 ft.

Schermerhorn Oil Co. No. 1 Hunter, NE cor. sec. 29-18-15w. K.C. 3,194 ft.; La Motte; Juartzite 3,565-76 ft. T.D.; P.B. 3,534 ft.; gas gauged 39,000,000 ft.; P.B. 3,530 ft.

Torry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w. Siliceous L. 3,430-32½ ft.; T.D.; potential; pumped 346 bbls. oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 23-19-12w. Anhydrite 665 ft.; KC. 3,155 ft.; siliceous 3,463 ft.; H.F.W. 3,550 ft.; T.D. Dry and abd.

Yarnell & Carlson No. 1 Roth, NE cor. sec. 35-18-12w. Drlg. 200 ft.

Butler County

Dalton et al No. 1 Miley, C SW NE sec. 17-27-5. S.D. 250 ft.

Ellis et al No. 1-A Pettit, SE SE NW sec. 31-25-6. Siliceous 3,160-63 ft.; pumped 18 bbls. oil and wtr.; acidized.

McGinnis et al No. 1 Hinnen, NE NE SW sec. 13-24-4. S.D. 2,545 ft.

Rex & Morris No. 1 Olson, NW SW SE sec. 15-28-6. Siliceous 3,042-59 ft.; D.&A.

Clark County

Olson & Watchorn No. 1 Morrison, C SE SW sec. 17-32-21w. Drlg. 3,591 ft.

Cowley County

W. M. McKnabb No. 1 Community, C NE NW sec 14-34-3. Layton 2,666-74 ft.; est. 7,000,000 ft. gas; comp.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4. U.R. 2,040 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Anhydrite 1,167 ft.; K.C. 4,028 ft. (cor.); U.R. 4,460 ft.

Ellis County

Albec Oil Co. No. 1 Union Pacific, NE cor. sec. 9-13-20w. Oswald 3,418 ft.; Cong. 3,670 ft.; set 5-in. liner, 3,770 ft. C.O.

Bradley Oil Co. et al No. 1 Penney-Wann, SE cor. sec. 13-15-20w. Anhy. 1,277 ft.; set 8-in. csg. 3,340 ft.; R.U.S.T.

Bridgeport Mch. Co. No. 1 Ubert, NE NE NW sec. 12-13-18w. Drlg. 1,565 ft.

Empire O. & R. Co. No. 1 Herl, SE cor. sec. 22-15-19w. Anhydrite 1,135 ft.; Drlg. 3,100 ft.

Empire O. & R. Co. No. 1 Samuelson, NE NE SE sec. 31-11-16w. Drlg. 1,205 ft.

Champlin Refining Co. No. 1 Hadley, SE SW NE sec. 30-11-17w. Rig.

Frank Hamilton et al No. 1 Sack, NW NW SE sec. 26-13-19w. Cellar.

Jones & Shelbourne No. 1 Gunther, SE SE SW sec. 9-11-19w. Anhydrite 1,417 ft.; U.R. 2,635 ft.

Kansas Dev. Corp. No. 1 Haller, SE SE NW sec. 10-11-18w. Anhydrite 1,190 ft.; Topeka 2,880 ft. R.U.S.T.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Loc.

Lario O. & G. Co. No. 1 Marshall, NW SE NE sec. 36-11-18w. Drlg. 590 ft.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Loc.

Parrish & Denman No. 1 Walter, SE SW SE sec. 14-13-17w. Anhydrite 1,152 ft.; H.F.W. 3,705 ft.; T.D. Dry and abd.

Philhan Oil Co. No. 1 Gerstner, SW SW SE sec. 24-14-17w. Drlg. 1,580 ft.

J. E. Trigg et al No. 1 Armbrister, SE SE SW sec. 6-11-19w. Anhydrite 1,517 ft.; Sil. 3,763-70 ft. T.D. Dry and abd.

Twin Drlg. Co. et al No. 1 Schmidt, SW SW SE sec. 22-15-17w. Drlg. 790 ft.

Vickers Pet. Co. No. 1 Kraus, SW SW NW sec. 22-14-19w. Anhy. 1,390 ft.; Oswald 3,420 ft.; Fsg. 3,565 ft.

Wolf Creek Oil Co et al No. 1 Polifka, SW SW NE sec. 24-13-18w. R.U.

Ellsworth County

Carter Oil Co. et al No. 1 Kruse, C S½ S½ NE sec. 31-17-8w. Rig.

Roy Ramsey et al No. 1 Gregory, SW SW SE sec. 25-16-9w. Drlg. 3,110 ft.

York State Oil Co. No. 1 Koestle, NW NW SE sec. 12-17-9w. Salt 375 ft.; drlg. 2,475 ft.

Finney County

Helmerich & Payne No. 1 Jones, C SE sec. 34-26-34w. Dolomite 2,507 ft. Set 6-in. 2,515 ft. R.U.S.T.

Graham County

Vickers Pet. Co. and Phillips Pet. Co. No. 1 Hutton, NE NE SE sec. 29-8-22w. Anhydrite 1,805 ft.; K.C. 3,473 ft.; Cong. 3,765 ft.; Sil. 3,870-76 ft., T.D.; wtr.; D.&A.

Greenwood County

Ward McGinnis No. 1 Lampe, NW NE SW sec. 26-24-8. Fsg. 2,430 ft.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. S.D. 1,000 ft.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW sec. 17-35-8w. Wilcox sand 5,320 ft.; S.O. and gas, salty taste; T.D. 5,410 ft.; P.B. 4,400 ft.; Mississippi 4,778 ft.; in new hole; Viola 5,245 ft.; Wilcox 5,322 ft. Drlg. 5,458 ft.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. S.D. 3,085 ft.

Phillips Pet. Co. No. 1 Kaufman, NE NE NW sec 2-22-2w. Chat. 2,990 ft. T.D. 3,358 ft. R.U.S.T.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. Rig.

Kuhn Bros. et al No. 1 Nilson, SW SW SE sec. 21-28-32w. Set 6-in. csg. 2,409 ft.; R.U.S.T.

Kingman County

D. R. Lauck et al No. 1 Prather, C SE sec. 18-27-8w. Chat 4,039 ft.; Viola 4,339 ft.; Sil. 4,516-35 ft. T.D. Dry and abd.

W. C. McBride, Inc., No. 2-A Wooldridge, SW NE SE sec. 16-27-7w. Spudded.

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 33-27-8w. O.W.D.D.; drlg. 4,583 ft.

Oklahoma Oil Corp. et al No. 1 Reeves, NW cor. sec. 29-27-5w. Chat 3,740 ft.; Misener, 4,103 ft.; Sil. 4,280 ft. T.D. 4,317 ft. D.&A.

Lincoln County

Graham et al No. 1 Smiley, NE NW NW sec. 26-10-9w. Rot. rig.

Lyon County

Becker Bros. No. 1 Rossillion, SE SE NE sec. 19-21-11. Drlg. 900 ft.

Marion County

Empire Oil & Ref. Co. No. 1 Schmidt, NW NW SE sec. 31-20-2. M.I.M.

Meade County

Pacific Midwest Oil Co. No. 1 Rexford, NE SE SW sec. 8-20-29w. Rig.

McPherson County

Empire O. & R. Co. No. 1 Cunningham, SE cor. sec. 26-18-1w. Chat 2,803 ft.; T. D. 2,832 ft.; acidized; flowed 252 bbls. in 12 hours.

T. C. Johnson, et al No. 1 A. R. Johnson, SW SW NW sec. 33-17-1w. Drlg. 3,220 ft.

Ness County

Continental Oil Co. No. 1 Thompson, C E½ E½ SW sec. 13-18-26w. Siliceous and S.O. 4,446-50 ft.; T.D. 4,527 ft. Water. P.B. 4,525 ft.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. S.D. 530 ft.

Pawnee County

Kessler & Their et al No. 1 Gustafson, SW cor. sec. 27-20-16w. Spudded.

Simpson Oil Co. et al No. 1 Gates, SW cor. sec. 13-20-16w. Loc.

Reno County

Continental Oil Co. and L. H. Wentz No. 1 Snook, NE NW SW sec. 10-22-8w. R.U.

Dickey Oil Co. No. 1-A Shepherd, NE NE NW sec. 22-26-9w. Chat 3,870 ft.; wtr., 4,161 ft.; P.B. 4,135 ft.; Simpson 4,237 ft.; Siliceous, 4,333 ft. T.D. 4,375 ft. P.B. 4,095 ft.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.O. 2,874 ft.; H.F.W. 3,075 ft.; S.D. 3,190 ft.

Graham et al No. 1 Miller, NE NE SE sec. 36-25-10w. Drlg. 2,135 ft.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w. Drlg. 1,580 ft.

Pryor & Lockhart et al No. 1 Kerr, C NW sec. 23-23-8w. Spudded.

Rose Spring Drlg. Co. No. 1 Swansen, NE NE NW sec. 1-23-5w. Simpson 3,954 ft., Set 6-in. csg. 3,954 ft.

Rice County

Beardmore et al No. 1 Fuller, SW SW SE sec. 23-18-7w. K.C. 2,777 ft.; Cong. 3,-111-89 ft.; Simpson 3,430 ft. Drlg. 3,451 ft.

Day No. 1 Mason, NW NE NE sec. 28-21-7w. Chat 3,388-3,400 ft.; T.D. 3,431 ft.; Pot. 135 bbls. Comp.

Gilmac Oil Co. No. 1 Sargent, SE cor. sec. 31-18-6w. Drlg. 3,328 ft.

Gulf Oil Corp. No. 1 Steckel, SW cor. sec. 30-19-10w. Set 10-in. csg. 150 ft.

Saco Oil Co. et al No. 1 Haxton Est., NW NW NE sec. 30-19-8w. Anhydrite 315 ft. Drlg. 330 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7. Drlg. 985 ft.

Shell Pet. Corp. No. 1 Gordon, C W half W half NE sec. 21-21-10w. Coring 2,532-42 ft.

Shell Pet. Corp. et al No. 1 Hafermann, C N½ N½ SE sec. 6-19-9w. Siliceous 3,192 ft.; T.D. 3,216 ft.; pumped 937 bbls. in 17¾ hrs.

Shell Pet. Corp. No. 1 Maughlin, NE NW SE sec. 11-20-8w. Siliceous 3,235-38 ft.; 36,500,000 ft. gas at 3,260 ft.; acidized.

Simpson & Noble et al No. 1 Pulliam, C S½ N½ NE sec. 35-19-8w. K.C. L. 3,-846 ft.; Viola 3,189 ft.; Simpson, 3,210 ft.; Siliceous 3,279 ft.; T.D. 3,305 ft.; gauged 45,178,000 ft. gas; drlg. 3,432 ft.

Simpson & Noble and Stanolind O. & G. Co. No. 1 Bowman, SW SW NW sec. 22-19-10w. Anhy. 438 ft.; Siliceous 3,286-94 ft., T.D.; acidized; swabbed 34 bbls. oil in 8 hrs. P.B. 3,297 ft.

Hooks County

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6-18w. Ponds.

Hartman & Blair et al No. 1 Hall, NW cor. sec. 25-10-17w. Anhydrite 1,323 ft.; C.O. 2,195 ft.

Helmerich & Payne et al No. 1 Bedard, C NE sec. 29-9-19w. Drlg. 3,605 ft.

L. C. D. Drlg. Co. et al No. 1 Westhusin, C NE SE sec. 11-9-17w. Drlg. 1,052 ft.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Drlg. 2,770 ft.

Murfin et al No. 1 Wasthusin, NE NE SE sec. 19-9-16w. H.F.W. 3,613-20 ft. T.D. Dry and abd.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. Anhydrite 1,130 ft.; Drlg. 2,610 ft.

Skaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 28-10-17w. H.F.W. 3,657-58 ft. S.O. 3,543-3,600 ft.

Rush County

Boyle & Grossman No. 1 Wilson, NE cor. sec. 33-17-19w. Drlg. 3,868 ft.

W. E. Skeeles et al No. 1 Grumbein, SW SW NE sec. 7-16-20w. Cellar.

Russell County

Armer et al No. 1 Maier, NE NW NE sec. 20-15-14w. Anhydrite 840 ft.; drlg. 1,410 ft.

Coralena Oil Co. No. 1 L. A. Sellens, NW cor. sec. 17-15-13w. Rig.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Anhydrite 690 ft.; U.R. 2,023 ft.

Hartman & Blair No. 1 McAllister, SW SW SE sec. 24-13-15w. Anhydrite 940 ft.; Oswald 3,053 ft.; H.F.W. 3,340-42 ft. T.D. Dry and abd.

Lario O. & G. Co. et al No. 1 Steinert, NE NE SW sec. 21-15-15w. Anhy. 875 ft.; drlg. 2,791 ft.

Lee & Reser No. 1 Penix, SW SW SE sec. 13-14-13w. Anhydrite 705 ft. Drlg. 2,240 ft.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w. Tarkio L. 2,515 ft.; T.D. 2,550 ft.; swbd. 5 B.P.H. and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

Saline County

Ryan Consolidated Co. & Archer No. 1 Norton, NE cor. sec. 32-14-2w. S.D. 1,049 ft.

Sedgwick County

D. R. Lauck No. 1 McLean, SW SW SE Sec. 1-27-1w. Drlg. 723 ft.

Earl Wakefield et al No. 1 Howard, SE SE NE sec. 25-25-2. S.D. 295 ft.

Stafford County

Indian Terr. Illum. Oil Co. and Empire O. & R. Co. No. 1 Mellies, C N½ N½ NE sec. 6-22-11w. Rig.

C. H. Lebow et al No. 1 Wolk, SE SW NW sec. 3-21-12w. Drlg. 2,335 ft.

Sumner County

Craft & Wilson No. 1 Nevitt, NE NW NE sec. 36-32-2e. Siliceous 3,508-70 ft. T.D. Dry and abd.

Matthews & Derrington No. 1 Berry, NW NW SE sec. 14-35-1. Drlg. 3,744 ft.

E. B. Shawver No. 1 Judd, SW SE NE sec. 3-34-2. Drlg. 2,865 ft.

Texas Co. No. 1 Reed, NE SE SE sec. 11-31-1w. H.F.W. 3,060 ft.; drlg. 3,302 ft.

D. J. Wilson et al No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW sec. 15-35-1w. Wilcox 4,394 ft.; S.D. 4,430 ft.

Trego County

Central Commercial No. 1 Wagg, NW NW SE sec. 17-13-21w. K.C. L. 3,548 ft.; S.D. 4,505 ft.

J. J. Hall et al No. 1 Deines, SE SE SE sec. 12-13-24w. Drlg. 3,045 ft.

Woodson County

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. L. 1,505 ft.; T.D. 1,527 ft.; **P.B. 1,200 ft.; H.F.O.; no test.**

Ladd et al No. 1 Milliner, NW SW NW sec. 34-25-14. R.U. machine.

Lewis et al No. 1 Riggs, SW cor. sec. 10-26-14. Drlg. 1,225 ft.

C. L. Sheedy et al No. 1 Fuhlhage, NE NW SW sec. 27-25-14. Set 6-in. csg. 1,431 ft.

OKLAHOMA

Week Ending July 18

NORTHERN OKLAHOMA

Beckham County

Jo-Gail Drlg. Co. No. 1 Gilliland, C NE NE sec. 33-8-26w. Drlg. 1,088 ft.

Cleveland County

Hall-Briscoe, Inc., No. 1 Fant, SW SW NE sec. 27-10-2w. S.D. at 7,511 ft.

Coal County

Carter Oil Co. and Magnolia Pet. Co. No. 1 James, SW NW SW sec. 35-1s-8. Wapanucka 660 ft.; drlg. 2,512 ft.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Sd. 790-820 ft.; cored to 824 ft.; oil rose 180 ft. from top.

W. C. Mitchell No. 1 Quiett, NE NW SW sec. 35-1-8. Wapanucka 1,550 ft.; T.D. 1,900 ft.; bailed to 1,700 ft.; no showing.; S.D.

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10. Hunton 5,280 ft.; Sylvan 5,355 ft.; Viola 5,448 ft.; S.O. 5,640-57 sd. 6,275 ft.; T.D. 6,457 ft.; P.B. 4,270 ft. Bailed dry. Est. 75,000 ft. gas.

Sinclair Prairie Oil Co. No. 1 Culver, NE NE SW sec. 16-1-8. Drlg. 2,675 ft.

Garfield County

Herndon Drlg. Co. etal No. 1 Branson, SW SW SE sec. 23-24-3w. Drlg. 4,780 ft.

Earl McBride et al No. 1 Gage Est., SE SE NW sec. 27-22-3w. S.D. 1,380 ft.; sand 1,360-80 ft.; water.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w. Top Dense **5,915 ft.; Dolomite 5,935 ft.; first Wilcox** 5,975 ft.; second Wilcox 6,033 to 6,168 ft. Drlg. 6,295 ft.

Garvin County

Charles E. Carter et al No. 1 Wood, NW **SW SE sec. 5-4-3. O.W.D.D.; sd. 2,973** ft.; Hunton 3,000 ft.; T.D. 3,018 ft.; swabbed 100 bbls. fluid, 50 per cent water.

C. A. Luttrell et al No. 1 Howell, NW SE NW sec. 34-1-1. Drlg. 155 ft.

McElreath & Suggett No. 1 Lasater, SE SE SW sec. 2-2-1w. Cored, 4,563-66 ft. Drlg. 4,713 ft.

Grady County

John Graham et al No. 1 Castleberry, SW SE NW sec. 8-5-7w. T.D. 580 ft. S.D. for water.

Art Holt et al No. 1 Ramsey, NE SE NE sec. 31-5-8w. Drk.

Ray Stevens No. 1 Maya, NE cor. sec. 1-3-8w. Drk.

Hughes County

Blackwell O. & G. Co. No. 1 Homahte, SW NE NE sec. 1-9-10. Drlg. 2,177 ft.

McAdams & Barnes No. 1 Long, SE NE NW sec. 29-9-9. Senora sand 1,730-55 ft. T.D. 2,615 ft. Fsg.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9 H.F.W. 5,610 ft. Dolomite 5,598 ft. Wilcox 2,648 ft. T.D. 5,679 ft. W.O.C.

Sinclair Prairie Oil Co. et al No. 1 Wilkly, SW cor. sec. 23-9-8. Calvin 1,505 ft. T.D. 3,549 ft. S.D.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Booch 2,950 ft.; Gilcrease 3,100 ft.; Wapanucka 3,470 ft.; Cromwell 3,497 ft.; T.D. 3,498 ft. U.R.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6. Spudded.

Shell Pet. Corp. No. 1 Illinois Bankers Life, NW SE NE sec. 10-2s-7e. Hunton 400 ft.; no show; Sylvan 624 ft; Viola 813 ft. Drlg. 1,140 ft.

Kay County

W. O. Allen No. 1 Fulton, SE cor. sec. 18-27-4. S.D. 1,675 ft.

Kiowa County

E. A. De Bolt et al No. 1 Burnett, NW SE NE sec. 30-7-20w. Pits.

Hendershot & Wilson No. 1 Parrish, SE SE NW sec. 3-6-15w. T.D. 290 ft.; S.D.

Travis & Scott No. 1 Doyle, NE SE SW sec. 21-5-17w. Drlg. 366 ft.

Westbrook & Likeing No. 1 Aetna Life Ins. Co., NE SE SE sec. 10-5-16w. Mach.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. Drlg. 1,870 ft.

Lincoln County

Amerada Petroleum Corp. et al No. 1 Zimmerman, SW SW NE sec. 10-12-5. Acidized; flowed and swabbed 320 bbls. oil and 212 bbls. water in 24 hrs.

Mid-Continent Pet. Corp. and Texas Co No. 1 Hillman, SW SE NE sec. 29-13-6. T.D. 4,442 ft.; R.U.S.T.

Skelly Oil Co. No. 1 Sporn, NW NE SW sec. 21-17-3. Drlg. 2,998 ft.

McIntosh County

S. E. Dieckman No. 1 K. McIntosh, SE cor. sec. 4-12-17. Drlg. 965 ft.

Noble County

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Gillham, NE SE SE sec. 14-22-1. Drlg. 4,100 ft.

Payne County

R. L. Kemp and Continental Oil Co. No. 1 Lobaus, NW SW NW sec. 21-17-5. First Wilcox 4,007-20 ft., gas and spray oil; second Wilcox 4,036 ft.; T.D. 4,038 ft., wtr.; P.B. 4,035 ft.; est. 3,000,000 ft. gas; S.D.

Oklahoma County

I. D. O'Shaughnessy, Inc. No. 1 Berlowitz, SE SW NE sec. 9-12-3w. Drlg. 6,336 ft.

Osage County

Gray & Folson No. 1 Osage, SW SW NE sec. 33-25-7. Wilcox 2,948 ft. S.D. 3,052 ft.

Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. Loc.

Stoner Bros. No. 1 Osage, NW NE SW sec. 18-22-8. Drlg. 2,270 ft.

Payne County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Pratt, SE cor. sec. 29-19-5. First Wilcox 3,715-20 ft; second Wilcox 3,733 ft. T.D. 3,802 ft. Swabbed and flowed 195 bbls. oil, 75 bbls. water in 20 hrs. S.D.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Drlg. 745 ft.

Pottawatomie County

J. L. Shaw No. 1 Illinois Life, NW SE NW sec. 1-4-5. Drlg. 1,590 ft.

Seminole County

Ark Royalty Co. No. 1 Kiker, SE SE NE sec. 9-10-7. Drlg. 3,960 ft.

J. E. Crosbie, Inc., and Blankenship & Quiett No. 1 Biggers, C N½ N½ NE sec. 9-10-7. Gilcrease 2,547 ft.; Cromwell 2,925 ft. Mayes 3,675 ft. Drlg. 3,874 ft.

Deaner & Tilley et al No. 1 Wilson, SE SW SW sec. 29-7-6. Drlg. 3,580 ft.

Felmlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8. Sd. 1,460-1,505 ft.; S.O.&G.; S.D. 1,680 ft.

H. E. Kennedy No. 1 Bowlegs, NW NW SE sec. 3-8-7. Loc.

Rudco O. & G. Co. No. 1-A Butner, NE NE SW sec. 15-9-8. T.D. 1,385 ft. Fsg.

Tom Phillips & Kinrow Drlg. Co. No. 1 Cheparney, SE SE NW sec. 7-6-7. T.D. 4,085 ft. S.D.

Twin State Oil Co. No. 1 Hamm, SW SE SW sec. 24-10-7. Wilcox 4,366 ft. T.D. 4,368 ft. S.D.

Texas County

Allison & Barnhill No. 1 Bingley, SW SW NE sec. 30-2n-18 E.C.M. Rig.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8n-19w. T.D. 1,497 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

D. Malarnee et al No. 2-A DOK ranch, SE cor. sec. 35-2s-13e. O.W.D.D.; T.D. 3,482 ft.; U.R. 8-in. csg.

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12. T.D. 750 ft.; S.D. for casing.

Prairie Investment Co. No. 1 A. Cobb, SW NE NW sec. 19-3s-11e. Viola 30 ft.; T.D. 530 ft. Set 8-in. csg.

Carter County

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w. Drlg. 7,278 ft.

W. E. Hammond No. 1 J. Rile, SW SE SE sec. 8-5s-1e. T.D. 553 ft. U.R.

Comanche County

William Davis No. 1 Aetna Life Ins. Co., NE cor. sec. 22-2-15w. Drlg. 98 ft.

Cotton County

English Drlg. Co. No. 1 Wilson, NW NW SE sec. 7-4s-11w. T. D. 1,514 ft.; S.D.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,870 ft.; S.D. for D.P.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w. Granite Wash 1,912 ft.; S.O.; T.D. 2,085 ft.; drlg. by tools.

W. A. Delaney No. 1 Mock, C NE SW sec. 32-1n-20w. Drlg. 2,075 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w. T.D. 2,685 ft.; set whipstock; drlg. by pipe.

J. Ben Russell No. 1 Daniel, NW NE SE sec. 13-3-20w. T.D. 1,423 ft. S.D.

Universal Oil Co. No. 1 R. W. Briscoe, NW SW NE sec. 36-1s-20w. T.D. 3,004 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w. Sd. 1,525-57 ft.; T. D. 2,212 ft. Bailed hole; showing oil with water.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-9w. T.D. 2,202 ft.; S.D.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 12-2s-4e. Arbuckle L. 1,552 ft.; drlg. 1,938 ft. in L.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; perforated csg. at 1,530-99 ft. and 2,095-2,115 ft. Swb.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. 20-8s-2w. Drlg. 150 ft.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,565 ft.; S.D. for casing.

Marshall County

Helmerich & Payne No. 1 Taliaferro, NW SE SW sec. 26-5s-5e. Drlg. 2,520 ft. in new hole.

Sherril & Rounds No. 1 Taylor, SW NE NE sec. 30-7s-7e. T.D. 740 ft. U.R.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 3,560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. T.D. 1,487 ft. Fsg.

Ed Parson No. 1 Olson, C SW SW sec. 21-2n-8w. Location.

Tillman County

Rochelle Bernheimer No. 1 Tate, NE NE NW sec. 16-1s-19w. T.D. 2,602 ft. W.O.C.

Gulf Oil Corp. et al No. 1 McWilliams, NW SW SW sec. 15-3s-17w. Drlg. 4,654 ft.

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. T.D. 5,127 ft. Fsg.

Johnson, Young & Mitchell No. 1 Donahoe, SW NW NW sec. 7-4s-17w. Drlg. 2,870 ft.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Drlg. 220 ft.

Shirley, Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. T.D. 1,331 ft.; S.D.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. Drlg. 2,150 ft.

ARKANSAS

Bradley County

Phillips Pet. Co. No. 1 C. H. Murphy et al, NW cor. NW NW sec. 12-17-11. Cg. red sh. 4,588 ft.

Calhoun County

Ben G. Barnett No. 1 Freeman Smith, SE cor. sec. 36-15-14. T.A. hd. L. 5,618 ft.

T. R. Brown et al No. 1 Calion Lbr. Co., C S½ SE SW sec. 22-15-15. D.S.T. 4,-941-58 ft.; 1,200 ft. S.W.; abd.

Cleveland County

A. B. Diffie No. 1 L. C. Ross, 330 ft. S and W, NE cor. SW NE sec. 11-11-11. Drlg. 50 ft.

R. L. Saxon No. 1 Tipton, SE cor. SW NE sec. 13-11-12. Drk.

Dallas County

Kel-Mac Lsg. & Royalty Co. No. 1 Owens, sec. 26-10-16. Washing to bottom.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S. 30 ft. E. NW cor. SW NE sec. 14-11-26. R.U. and W.O.O.

M. D. Fitzwater No. 2 Lafferty, sec. 17-14-24. S.D. at 2,437 ft.

LaFayette County

A. M. Neeley No. 1 Meek, 330 ft. S and W, NE cor. NE NW sec. 35-19-25. R.U.

Little River County

Roberts et al No. 1 Hall, sec. 22-13-29. O.W.D.D.; S.D. 2,100 ft.

Loanoke County

J. F. Russell No. 1 J. T. Gunter, 444 ft. N, 577 ft. W, SE cor. sec. 17-5n-10w. Loc.

Frank F. Silver et al No. 1 Joe Chambers, C NE sec. 17-2n-7w. T.D. 1,470 ft. S.D.

Miller County

Deep Rock Oil Corp. No. 1 Williams, NW cor. SW NW sec. 6-16-25. Drlg. 4,164 ft. in anhy.

King Oil Corp. No. 1 Mann, NW cor. NW SE sec. 2-16-26. S.D. 3,340 ft.

McClanahan et al No. 1 Miller Ld. & Lbr. Co., SW cor. sec. 2-18s-28w. R.U. and W.O.

Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. S.D. 2,385 ft.

Ouachita County

Carnes & Harrell No. 1 Dunn & Robinson, new loc., 440 ft. S, 440 ft. E, NW cor. NW SE sec. 7-12-19. T.D. 2,415 ft. cor. depth; S.D.; W.O.

J. E. Crosbie No. 16 Sewell, C W½ SW NE sec. 35-15-15. Digging pits.

J. M. Farriss No. 1 Dean, NE SE NW sec. 16-15-17. Old T.D. 2,907 ft.; prep. to D.D.

Lion Oil Ref. Co. No. 1 Reynolds, C E½ SE NE sec. 28-15-15. P.B. 5,247 ft. to 5,041 ft.; cmt. 8-in.; W.O.C.S.

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-15. S.D. 2,116 ft.

Phillips Pet. Co. No. 1 Arnold, 660 ft. S and 330 ft. E, NW cor. NE sec. 27-15-15. W.O.; hd. L. 60,67-72 ft.; some sat.

Phillips Pet. Co. No. 1 Cheatham, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. T.D. 4,910 ft.; W.O.; fsg. for rotary slip 4,910 ft.

Phillips Pet. Co. No. 1 J. M. Farriss, cen. W½ NW SE sec. 27-15-15. R.U. and S.D.

Phillips No 1 E. Gette, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. Circulating 4,819 ft.; S.D.

Phillips Pet. Co. No. 1 L. Harriss, 660 ft. N and 330 ft. W, SE cor. SW NE sec. 28-15-15. Drlg. plug; testing; T.D. 4,-807 ft.

John Pugh No. 1-A P. T. Hildebrand, 660 ft. N and 330 ft. W, SE cor. sec. 28-15-15. D.S.T. (14-hr.) 4,914-34 ft.; 90 ft. oil; 4,500 ft. S.W.

O. F. Whittaker, Tr., No. 1 S. Howard, 600 ft. E and 150 ft. N, SW cor. NW NE sec. 20-12-16. Cmt. csg. 2,503 ft.; W. O.C.S.

Pulaski County

A. L. Kilselman No. 1 fee, 330 ft. N and W, SE cor. SE SW sec. 2-1s-13w. R.U.

Union County

Ark.-Southern Oil Co. No. 1 M. H. Simmons, NW cor. NW NE sec. 15-18-13. Drk.

J. C. Buckbee No. 2 Ezzell, SW cor. NE NW sec. 13-17-15. D.S.T. 5,029-5,131 ft.; dry; cg. S.W. sd. 5,353 ft.

J. E. Crosbie, Inc., No. 6 Sullivant, 560 ft. E, 800 ft. N, SW SE NW sec. 12-17-14. Comp.; pmp. 108 B.P.D.; 250 bbls. S.W.; T.D. 3,181 ft.

Marine Oil Co. No. 1 Simmons, 250 ft. S and W, NE cor. SE NW sec. 10-18-13. Drk.

McCressien Oil Co. No. 2 D. Norman, NE cor. NE SE sec. 3-18-13. W.O. jack to pump, 3,556 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

American Lib. O. Co. No. 1 Norton, 330 ft. S and 330 ft. W, NE cor. sec. 17-23-15. Comp.; flw. 60 B.P.H.; ½-in. tbg. ck.; sat. 6,012 ft.; T.D. 6,033 ft.

Ark.-La. Gas Co. No. 19 Rodessa O. & L. Co., NE cor. NE SE sec. 22-23-16. Comp. July 10; flw. 38 B.P.H.; ½-in. tbg. ck.; T.D. 5,996 ft.

Ark.-La. Gas Co. No. 20 Rodessa O. & L. Co., NW cor. SW sec. 23-23-16. 7-in. cmt. 5,970 ft.; W.O.C.S.

Ark.-La. Gas Co. No. 21 Rodessa O. & Ld. Co., 296 ft. N, 330 ft. E SW cor. sec. 23-23-16. Drlg. 4,477 ft.

Ark.-La. Gas Co. No. 22 Rodessa O. & Ld. Co., 330 ft. S and 328 ft. W, NE SE NE sec. 23-23-16. Drlg. 2,815 ft.

Ark.-La. Gas Co. No. 23 Rodessa O. & Ld. Co., 330 ft. N and E, SW cor. NW NE sec. 23-23-16. 9-in. cmt. 2,009 ft.; W.O. C.S.

Blackwell O. & G. No. 2 Neugent, 330 ft. S and 330 ft. E NW cor. NE SE sec. 8-23-15. 7-in. cmt. 5,945 ft.; W.O.C.S.

S. P. Borden No. 2 K.C.S., NW cor. SW sec. 23-23-16. Perf. csg.; T.D. 6,008 ft.

Haynes Prod. Co. No. 7 Otwell, 330 ft. N and E, SW SE SE sec. 15-23-16. 7-in. cmt. 5,964 ft.; W.O.C.S.

Haynes Prod. Co. No. 8 Otwell, 400 ft. S and 280 ft. E, NW SE SE sec. 15-23-16. 7-in. cmt. 5,966 ft.; W.O.C.S.

J. Edw. Jones No. 1 Rockefellow, Lot 3, Blk. 21, sec. 23-23-16. Drk.

Lacey et al No. 2 Tyson, 487 ft. S, 789 ft. W, NE SE NW sec. 24-23-16. Drlg. 5,179 ft.

Lion Oil Ref. Co. No. 2 Wynn, 295 ft. N, 307 ft. E, SW cor. sec. 9-23-15. Loc.

Louisiana Oil Ref. Corp. No. 1 Ratcliff, 330 ft. S and E, NW cor. sec. 16-23-15. Loc.

R. W. Norton No. 4 Atkins Unit, 820 ft. N and 441 ft. E, SW SE sec. 7-23-15. Drk.

R. W. Norton No. 5 Atkins Unit, 660 ft. S and E, NW NW NE sec. 18-23-15. Drlg. 2,399 ft.

R. W. Norton No. 4 Foscue Unit, SE cor. sec. 20-23-16. 7-in. cmt. 5,933 ft.; W.O. C.S.

R. W. Norton No. 6 Foscue Unit, 656 ft. N and W, SE cor. of Foscue tract, sec 20-23-16. Drlg. 2,683 ft.

R. W. Norton No. 5-A Caddo Lv. Bd., 2,-600 ft. N and 600 ft. W, C sec. 28-23-16. 6-in. cmt. 5,920 ft.; W.O.C.S.

R. W. Norton No. 7-A Caddo Levee Board, 330 ft. S, 1,980 ft. W, NE cor. sec. 28-23-16. Drlg. 3,196 ft.

R. W. Norton No. 2 Slattery, 1,990 ft. S, 656 ft. E, NW cor. sec. 28-23-16. Drlg. 2,995 ft.

R. W. Norton No. 5 Tyson heirs, 1,155 ft. N, 165 ft. W, SE cor. NW¼ sec. 13-23-16. Drlg. 4,414 ft.

Phillips No. 3 Adams, 815 ft. S and 1,707 ft. E, NW cor. sec. 17-23-16. Drlg. 5,-653 ft.

Phillips Pet. Co. No. 1 Innerstate Ld. & Royalty Co., 330 ft. S and E, NW cor. NE NW sec. 16-23-15. Drlg. 150 ft.

Phillips No. 1 Cora Woods, 330 ft. S and W, NE cor. W 60 ac., N½ NE¼ sec. 17-23-15. Drlg. 2,300 ft.

Phillips No. 6 Norton Est., 1,664 ft. E and 1,794 ft. S, NW cor. sec. 17-23-15. Drlg. 5,885 ft.

Phillips Pet. Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15. Drlg. 6,028 ft.

Phillips No. 1 J. T. Smith, 330 ft. S and 330 ft. W NE cor. SW SE sec. 5-23-15. Drlg. 5,856 ft.

Red Iron Drlg. Co. No. 1 Means, 330 ft. N and E, C sec. 9-23-15. Drk.

Regent Oil Corp. No. 1 Tyson, 104 ft. S, 104 ft. E NW cor. SE SW sec. 24-23-16. Perf. csg.; tstg.

Reinke et al No. 1 Pitts, 363 ft. S, 1,308 ft. E, NW cor. SW NW sec. 23-23-16. Drlg. 280 ft.

H. W. Snowden No. 1 Phillips, C Lot 11, Blk. 36, sec. 23-23-16. Comp.; flw. 4 B.P.H.; 5,000,000 ft. gas 2/16-in. tbg. ck.; 3,000 gal. acid; T.D. 5,996 ft.

H. W. Snowden No. 3 Phillips, C Lot 7, Blk. 47, townsite, sec. 23-23-16. Drlg. 5,-825 ft.

Snowden & Anding No 1 Taylor, C Lot 7, Blk. 46, townsite, sec. 23-23-16. Drlg. 4,-038 ft.

Standard Oil Co. of La. No. 5 J. Caldwell, 320 ft. S and W, NE cor. SW SE sec. 12-23-16. Drlg. 5,255 ft.

Standard No. 17 Lawton, 100 ft. N and 764 ft. W, SE cor. NW sec. 14-23-16. Drlg. 5,616 ft.

Standard No. 4-A M. L. Pitts, 330 ft. N and W, SE sec. 11-23-16. T.D. 6,022 ft.; went on gas-lift equipment.

Simpiex Oil Co. No. 3 Natalie, 1,175 ft. N and 200 ft. W SE cor. W½ SE¼, sec. 10-20-15. T.D. 2,205 ft.; tested S.W.; P.B. to 2,199 ft.; W.O.

Tri-State O. & G. Co. No. 1 Hall, C Lot 12, Blk. 29, sec. 23-23-16. Comp.; flw. 7 B.P.H.; ¼-in. tbg. ck.; 3,000 gals. acid; T.D. 6,004 ft.

Tri State O. & G. Co. No. 2 Hall, Lot 12, Blk. 29, sec. 23-23-16. 16-in. set 225 ft.

United No. 6 Brewer Unit, 1,094 ft. N and 569 ft. E, SW cor. sec. 22-23-16. Comp.; flw. 30 B.P.H.; ¼-in. tbg. ck.; T.D. 6,003 ft.

United No. 3 Harris, NE cor. sec. 15-23-16. Comp.; flw. 30 B.P.H.; ½-in. tbg. ck.; T.D. 6,017 ft.

United Gas No. 2 Lindsay Maround Unit, 133 ft. S and W NE NW NW sec. 24-23-16. Drlg. 5,184 ft.

United No. 4 Miller, sec. 14-23-16. Comp.; flw. 30 B.P.H.; ½-in. tbg. ck.; 2,000 gals. acid; T.D. 6,017 ft.

United No. 2 Mitchell, SW cor. of lse., sec. 20-23-16. Perf. csg.; acidized; T.D. 6,040 ft.

United No. 8 Pitts, SW cor. of E 28 ac., NE SW sec. 15-23-16. Comp.; flow. 16 B.P.H.; ¼-in. tbg. ck.; 1,500 gals. acid; T.D. 6,085 ft.

United Gas No. 9 M. L. Pitts Unit, 113 ft. N, 111 ft. W, SE SW SW sec. 13-23-16. Drlg. 6,005 ft.

United Gas No. 4 N. S. Spearman Unit, 659 ft. S, 650 ft. W, NE NW sec. 18-23-15. Drlg. 5,790 ft.

United Gas No. 1 Teamer, 133 ft. S, 111 ft. E, NW NE NW sec. 24-23-16. Drlg. 4,090 ft.

United Gas No. 6 Thomas Unit, 319 ft. N, 329 ft. E, SW NE NW sec. 23-23-16. Milling on 5-in.; T.D. 6,000 ft.

United Gas No. 7 Thomas Unit, sec. 22-23-16. Drlg. 3,174 ft.

United Gas No. 8 Thomas Unit, Blk. 7, sec. 23-23-16. Drlg. 4,831 ft.

United Gas No. 9 Thomas Unit, 330 ft. N and 322 ft. W, SE cor. NE NW sec. 23-23-16. Loc.

United Gas No. 23 Rodessa O. & L. Co., 319 ft. N, 423 ft. W, SE NW NW sec. 23-23-16. 7-in. cmt. 5,988 ft.; W.O.C.S.

United Gas No. 574-1 fee, 660 ft. N and W, SE cor. sec. 16-23-16. Drlg. 5,383 ft.

United Gas No. 9 Young, 612 ft. N, 655 ft. W, SE cor. sec. 21-23-16. Drlg. 1,-360 ft.

N. LOUISIANA WILDCATS

Bienville Parish

W. V. Bowles et al No. 1 Bank of Ringgold, 486 ft. S and W, NE cor. sec. 3-15-9. Loc.

J. W. Leonard No. 1 Courtney, 330 ft. N and W, SE cor. sec. 5-17-7w. Drlg. 1,-890 ft.

Rondeau et al No 1 Locke, 150 ft. S and 1,495 ft. W, NE cor. sec. 9-15-10. Drk.

A. C. Walters No. 1 D. B. Davis, C SE SW sec. 3-16-9w. Drk.

Bossier Parish

Geo. H. Bringhurst et al No. 2 Buckley, 1,000 ft. N, 330 ft. W, SE cor. sec. 35-21-12. T.D. 300 ft.; S.D. for wtr.

Producers O. & G. Co. No. 1 Webb, C W½ SW sec. 22-17-12. Cg. 4,406 ft.

Tidwell et al No. 1 Nattin, 200 ft. S and W, C sec. 15-22-14. Drlg. 2,605 ft.

Triangle Drlg. Co. No. 1-E Skannal, 660 ft. N and 2,640 ft. W, SE cor. sec. 23-17-12. Drlg. 4,314 ft.

United Gas Pub. Ser. Co. No. 1-D H. L. Skannal, 660 ft. S, 561 ft. W, NE cor. SE sec. 22-17-12. T.D. 5,315 ft.; tstd. S.W.; will swb.

Caddo Parish

S. Bender No. 2 Starr, SW SW sec. 26-20-16. Drlg. 2,196 ft.

Calatex O. & G. Co. No. 2 Scott, 1,038 ft. W, 807 ft. N, SE cor. sec. 5-16-16. T.D. 2,797 ft.; P.B. 2,460 ft.; W.O.C.S.

Calatex O. & G. Co. No. 2 Hudson, 1,319 ft. N and 913 ft. E, SW cor. sec. 5-16-16. Drk.

W. D. Chew No. 1 Spell, SW cor. SE SW sec. 29-21-15. Drlg. 40 ft.

R. E. Dalton No. 1 Noel Est., SW cor. SE SE sec. 4-21-14. T.D. 1,050 ft.; S.D.

DeSoto O. & G. Co. No. 1 Herndon, sec. 17-21-15. Drlg. 2,500 ft.

Falcon Oil Co. No. 1 J. E. Cupples, 500 ft. S and 360 ft. W, NE cor. sec. 24-16-13. R.U.

Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. Moving in.

Hillman et al No. 2 Noel Est., 590 ft. S and 330 ft. W, NE cor. sec. 12-20-16. Pmpd. S.W. and S.O.; T.D. 2,245 ft.

J. B. Hutchinson No. 3 Storey-Phillips, SW cor. NE NW sec. 28-16-13. R.U.

Juan et al No. 1 P. Hobbs, SE cor. NW NW sec. 28-21-15. Drk.

Bill Morefield et al No. 1 Stokely, 745 ft. S and 100 ft. E, C sec. 5-20-16. Drlg. 430 ft.

Morris & Wooley No. 1 Pender, NW cor. SW sec. 11-20-15. Cg. 2,210 ft.

Prairie River Synd. No. 1 Hutchinson, 330 ft. N and E, SW NW sec. 15-15-12. Drlg. 2,811 ft.

Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15. Cg. 4,210 ft.

Stanolind O. & G. Co. No. 102 Dillon, 330 ft. S and W NE cor. sec. 14-21-15. Pumped 10 B.P.D.; T.D. 1,699 ft.

Stanolind O. & G. Co No. 103 Dillon hrs., sec. 13-21-15. Comp.; flw. 75 B.P.D.; acid; T.D. 1,700 ft.

Stanolind O. & G. Co. No. 104 Dillon hrs., sec. 13-21-15. Cmt. 10-in. at 100 ft.; W. O.C.S.

United Gas No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16. Cg. L. 5,756 ft.

Caldwell Parish

Ziegen No. 7 La. Cen. Lbr. Co., sec. 10-12-2e. Set 12-in. 82 ft.; drlg. 1,680 ft.

Catahoula Parish

J. Ray McDermott No. 1 La. Cen. Lbr. Co., 400 ft. S and E, NW cor. sec. 15-10-5e. T.A. 2,729 ft.; hd. sh.

Claiborne Parish

S. E. Langford et al No. 1 White, cen. S½ NE SW sec. 26-21-8. R.U.

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. S.D. 4,416 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Drlg. 7,847 ft.

De Soto Parish

J. W. Adams No. 1 Jenkins Est., 241 ft. W, 274 ft. S, NE cor. sec. 3-12-12. Loc.

J. E. Carlson No. 1 A. P. Garland, 350 ft. S and E, NW cor. SW sec. 7-14-14. Fsg. 626 ft.

J. G. Carson No. 1 C. J. McMichael, sec. 26-13-15. Drk.

L. S. Fite et al No. 1 Ramsey, 330 ft. N and W, C sec. 36-11-11. S.D. for water; T.D. 965 ft.

Jal Drlg. Co. No. 8-A Scales, 1,370 ft. N, 110 ft. E, SW cor. sec. 36-13-12. Drk.

R. C. Payne No. 1 Harris, sec. 11-13-14. Drlg. 2,030 ft.

Grant Parish

Acadian Prod. Corp. B-2 Swope, 330 ft. S of No. 7. Drlg. 1,430 ft.

Alexander et al No. 1 Maxwell, sec. 9-9-1e. P.O.; will not D.D.; abd.; T.D. 1,-538 ft.

Al Johnson et al No. 1 Brewster, 150 ft. S and W, NE NW NE sec. 19-9-1e. S.D. 1,640 ft.

Perry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. Cmt. 6-in.; W.O.C.S.

W. B. Rhineck, Tr., No. 1 Swope, SW cor. NW SW sec. 16-9-1e. T.D. 1,601 ft.; W. O.S.R.

Taw Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e. Abd.; will not drill.

Theo Davis et al No. 1 Barrett, NE cor. S½ SW NE sec. 19-9-1e. R.U.

La Salle Parish

Montague Oil Co. No. 7-A Zenonia Lbr. Co., NE cor. sec. 10-9-1e. Tstd. S.W. and W.O. 1,520 ft.

Morehouse Parish

J. E. Ferrell No. 25 State, SW cor. sec. 20-22-4e. Loc.

J. E. Farrell No. 26 State, 2,053 ft. S, 986 ft. E, NW cor. sec. 20-22-4e. Drlg. 2,-600 ft.

J. E. Farrell No. 27 State, SW cor. sec. 17-22-4e. Drlg. 1,200 ft.

J. E. Farrell No. 28 State, NW cor. sec. 17-22-4e. R.U.

J. E. Farrell No. 30 State, NW cor. sec. 12-20-4e. R.U.

J. E. Farrell No. 31 State, SW cor. sec. 20-4-3e. R.U.

J. E. Ferrell No. 32 State, SW cor. sec. 36-21-4e. Drlg. 160 ft.

J. E. Farrell No. 33 State, 3,971 ft. N, 4,-544 ft. E, SW cor. sec. 36-21-4e. Comp.; 1,500,000 ft. gas; 755 lbs. R.P.; T.D. 2,-170 ft.

United Gas Co. No. 39 Crossett, NE cor. sec. 25-22-4e. Drk.

United Gas No. 40 Crossett, NW cor. sec. 30-22-5e. Drk.

United Gas No. 28 Tensas, sec. 3-21-4e. T.D. 2,176 ft.; tstg.

United Gas No. 29 Tensas, sec. 17-22-4e. Cmt. 6-in. 2,048 ft.; W.O.D.S.

United No. 17 Tensas, 1,320 ft. N and 1,-317 ft. W, SE cor. sec. 26-22-4e. 6-in. cmt. 2,136 ft.; drlg. 2,272 ft.

United No. 18 Tensas, 1,320 ft. S and 1,317 ft. W, NE cor. sec. 35-22-4e. Drlg. 2,-129 ft.

United Gas No. 30 Tensas, 1,313 ft. W, 664 ft. S, NE cor. sec. 3-21-4e. R.U.

Natchitoches Parish

C. D. Morrison No. 1 Moffitt, 250 ft. N, 250 ft. W, SE cor. sec. 19-10-10. 10-in. set 110 ft.; W.O.C.S.

Union Pet. Co. No. 2 DeBlieux, 2,395 ft. E, 150 ft. S of W cor. sec. 33-10-7w. R.U.

Ouachita Parish

Innerstate Nat'l Gas Co. No. 49 fee, 2,987 ft. W, 210 ft. N, NE cor. sec. 45-19-3e. R.U.

Red River Parish

Byrd Explo. Co. No. 1 Edge, NE¼, SE¼, sec. 29-13-11. T.D. 2,499 ft.; S.D.

Bird Oil Co. No. 1 F. H. King, 320 ft. N and E, SW cor. NW NE sec. 34-13-11. Drk.

Byrd Explo. Co. No. 1 Waller, 1,570 ft. N and 1,520 ft. W, SE cor. sec. 20-12-11. Drlg. 6-in. plug 2,423 ft.

W. J. Hunter et al No. 1 Long Bell Lbr. Co., NE NE sec. 19-13-9. T.D. 3,200 ft.; S.W. 2,876-80 ft.; S.D.

T. G. Shaw No. 1 Teekell, SE cor. SE SW sec. 34-13-10. T.D. 2,830 ft.; W.O. pmpg. jack.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Drlg. 1,259 ft.

J. S. Morrisey No. 1 Jones, 1,293 ft. N, 636 ft. E, SW cor. sec. 15-18-7e. D.S.T. 2,187 to 2,228 ft.; mud; cg. 2,228 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S, 560 ft. W, NE cor. sec. 10-17-6e. S.D. 2,540 ft., sh.

Sabine Parish

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. T.D. 1,553 ft.; W.O.S.R.

F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Cmt. 8-in. 3,585 ft.; W. O.D.S.

Pearl Oil Co. No. 6 Crawford, C SE SE sec. 20-9-13. Milling on 6-in. csg.

J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 5-18-13. T.D. 2,069 ft.; will acidize.

O. S. McKnelly No. 3 Henderson, sec. 29-9-13. Cmt. 6-in. 1,536 ft.

A. C. Scott No. 1 Bowman Hicks, 660 ft. S and 330 ft. E, NW cor. NW SW sec. 23-9-13. W.O.S.R.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13. T.D. 3,500 ft.; S.D.

A. H. Tarver No. 2 Baker, NW cor. NE sec. 36-8-12. Cmt. 8-in. csg. 3,500 ft.; W.O.D.S.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE cor. sec. 30-12-10e. Tstd. 1,000,000 ft. gas; 300 ft. S.W.; will D.D.

H. M. Jones et al No. 1 fee, SE SE sec. 32-12-10e. T.D. 650 ft.; S.D.

Union Parish

Boucher & Pace No. 1 Frost-Johnson, NE NE sec. 27-21-1e. T.D. 4,515 ft.; S.D.; negotiating to D.D.

Federal Pet. Co. No. 1 fee, 330 ft. S and W, NE cor. sec. 34-21-3e. T.D. 2,383 ft.; rng. 9-in.

Federal Pet. Co. No. 2 fee, 330 ft. S and W, NE cor. sec. 5-19-3e. Set 16-in. 231 ft.; W.O.D.S.

Innerstate Natural Gas Co. No. 47 fee, 2,075 ft. S, 660 ft. W, NE cor. sec. 22-20-3e. Comp.; June 30; 3,000,000 ft. gas; 990 lbs. R.P.; T.D. 2,155 ft.

Innerstate Natl. Gas Co. No. 48 fee, SE sec. 27-20-3e. R.U.

Southern Carbon Co. No. 10 Grayling, L.-261 ft. N and 660 ft. E, SW cor. sec. 9-21-4e. Comp.; 10,000,000 ft. gas; 880 lbs. R.P.; T.D. 2,150 ft.

So. Carbon Co. No. 11 Grayling, 1,320 ft. S, 1,840 ft. E, NW cor. sec. 9-21-4e. Loc.

So. Carbon Co. No. 69 fee, 660 ft. S and E, NW cor. sec. 9-21-4e. Loc.

United Carbon Co. No. 1 Nolan, 660 ft. N and E, SW cor. sec. 4-20-3e. Drlg. 770 ft.

United Carbon Co. No. 4 Stovall, 1,698 ft. E and 2,201 ft. N, SW cor. sec. 33-21-4e. Comp.; June 9; 8,000,000 ft. gas; 790 lbs. R.P.; T.D. 2,135 ft.

Webster Parish

W. D. Ambrose No. 1 T. Crichton, 330 ft. N and E, SW cor. SW NW sec. 36-18-9. M.I.M.

J. H. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 5-17-9. T.A. 3,016 ft.; S.D.

J. P. Evans No. 1 Johnson, 501 ft. N, 200 ft. E, SW cor. NW SW sec. 36-18-9. Drlg. 1,360 ft.

Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. 10-in. set 90 ft.; W.O.C.S.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C sec. 23-21-10. Drlg. 8,490 ft.

L. R. Skidmore No. 1 Barnett, sec. 29-17-9. S.D. 1,000 ft.

West Carrol Parish

Lahman & Insley No. 1 C. H. Neely, 330 ft. N and W, SE cor. SE SW sec. 19-20-11e. Drlg. 300 ft.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 12 State-Bay St. Elaine, sec. 20-22s-18e. Drlg. sd. 5,610 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 34 Watkins, sec. 7-12s-12w. T.D. 5,176 ft.; cg. ahead.

Caillou Island—Terrebonne Parish

Texas Co. No. 37 State, 1,492 ft. N, 362 ft. W, SE cor. sec. 18-23s-20e. 13⅜-in. csg. 1,300 ft.; T.D. 3,793 ft.; salt; P.B. 3,690 ft.; sdtkd. 3,042 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 13 School Land sec. 16-14s-13w. T.D. 6,094 ft.; P.B. 4,-819 ft.; I.P. 10 B.P.D.

Burton Sutton No. 14 School Land, sec. 16-14s-13w. Drk.

Burton-Sutton No. 3-A School Land, sec. 16-14s-12w. T.D. 3,951 ft.; P.B. and sdtkd. at 3,808 ft.; T.D. 4,060 ft.; 7-in. csg. 4,039 ft.; I.P. 100 B.P.D.

Humble-Magnolia No. 17 Cameron Meadows, sec. 21-14s-13w. Drlg. 4,673 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-10s-2e. Drk.

Humble O. & R. Co. No. 7 Gumble, T.D. 5,684 ft.; 7-in. csg. 5,668 ft.; flwd. 214 bbls.; killed well to deepen; sh. 3,867 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. Drlg. sh. 3,867 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e. T.D. 7,613 ft.; P.B. and sdtkd. at 5,010 ft.; drlg. sh. 7,875 ft.

Garden Island—Plaquemines

Texas Co. No. 19 Garden Isle, sec. 37-22s-33e. T.D. 4,869 ft.; rmg. 4,151 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 2 Airhart, sec. 14-9s-8w. R.U.

Fohs Oil Co. No. 1 Henry Powers, sec. 14-9s-8w. T.D. 7,061 ft.; 7-in. csg. on bottom; I.P. 612 B.P.D. through 1-in. ck.; T.P. 825 lbs.

Texas Co. No. 10 Nickerson fee, sec. 13-9s-8w. Drlg. sh. 5,215 ft.

Union Sulphur Co. No. 8 Barbe, sec. 11-9s-8w. Drlg. sh. 5,637 ft.

Union Sulphur Co. No. 1 G. S. Cole, sec 12-9s-8w. T.D. 5,283 ft.; T.A.

Union Sulphur Co. No. 1 Green Acres, sec. 11-9s-8w. T.D. 7,659 ft.; P.B. 5,045 ft.; W.O.C.

Union Sulphur Co. No. 1 Kaufman, sec. 13-9s-8w. Drk.

Union Sulphur Co. No. 13 State, sec. 13-9s-8w. Drk.

Union Sulphur Co. No. 15 State, sec. 13-9s-8w. Drk.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 21 Irwin, sec. 12-12s-10w. Drlg. sh. 2,837 ft.

Pure Oil Co. No. 1 "A" Duhon, sec. 29-12s-10w. Drlg. sh. 3,131 ft.

Stanolind O. & G. Co. No. 16-A School Ld., sec. 16-12s-12w. Top salt 3,373 ft.; T.D. 3,379 ft.; abd.

Stanolind O. & G. Co. No. 23-B Gulf Land, sec. 14-12s-10w. R.U.; (corrected).

Sutton Oil Co. No. 5 Duhon, sec. 22-21s-10w. T.D. 3,272 ft.; 7-in. csg. 3,250 ft.; failed to flow; R.U. to pmp.

Texas Co. No. 21 State, sec. 12-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w. Drlg. sh. 5,339 ft.

Jeanette—St. Mary Parish

Herton Oil Co. No. 1 Barrileau, sec. 59-13s-8e. Cg. sdy. sh. 7,316 ft.

Bayou Mallet—Acadia Parish

Superior Oil Prod. Co. No. 1 Goss, sec. 13-7s-1e. Drlg. sh. 7,940 ft.

Jennings—Acadia Parish

Stanolind O. & G. Co. No. 16 Houssiere-Latrielle, sec. 47-9s-3w. T.D. 7,052 ft.; P.B. 6,200 ft.; T.D. 6,719 ft.; rmg. to straighten hole.

Lafitte—Jefferson Parish

Texas Co. No. 5 Lafitte, sec. 20-17s-24e. Drlg. sh. 5,070 ft.

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. Drlg. sdy. sh. 3,043 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. Drlg. wtr. sd. 7,627 ft.

Texas Co. No. 38 State, sec. 38-21s-19e. Top salt 1,355 ft.; drlg. salt 2,242 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Sh. 7,528 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 5 LaFourche Basin Levee Bd., sec. 11-18s-25e. T.D. 5,100 ft.; P.B. 3,450 ft.; sh. 4,600 ft.; no report.

Leesville—LaFourche Parish

Delta Oil Co. No. 1 Constantine, sec. 34-21s-22e. T.D. 5,043 ft.; 7-in. csg. at 5,009 ft.; S.D.

Gulf Oil Corp. No. 11 Allen Land. Drlg. sh. 4,210 ft.

Lincoln Oil Co. No. 2 Constantine, sec. 27-21s-22e. Drlg. sh. 3,915 ft.

Lincoln Oil Co. No. 9 State, sec. 34-21s-2e. 10¾-in. csg. at 769 ft.; drlg. sd. 4,-751 ft.

Texas Co. No. 48 Leesville, sec. 27-21s-22e. Drlg. L. 4,372 ft.

Texas Co. No. 53 L.L.&E., sec. 34-21s-22e. Drlg. sh. 5,855 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 3 Sabetier, sec. 54-12s-7e. S.D. salt 3,180 ft.

Fotadies No. 2 Gulf fee, 400 ft. W of No. 1. T.D. 4,686 ft.; 7-in. csg. 4,665 ft.

Kitos Oil Co. No. 3-A Sealey, sec. 56-12s-7e. T.D. 4,560 ft.; P.B. to 3,200 ft.; S.D.

Teche Oil Co. No. 1 Schwing, sec. 52-12s-7e. P.B. and sdtkd.; top salt 4,580 ft.; 7-in. csg. 4,181 ft.

Choneyville—Rapides Parish

Bowles & Borsodi No. 1 Haas Investment, sec. 53-1s-2e. Cg. sh. 5,698 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 4-B Devilbiss, sec. 11-9s-4w. T.D. 8,905 ft.; attempting to P.B. in sdtkd. hole; drlg. sh. 7,-340 ft.

Shell Pet. Corp. No. 3 Carter, sec. 1-9s-4w. Top sd. 8,630 ft.; T.D. 8,659 ft.; 7-in. csg. 8,645 ft.; I.P. 990 B.P.D. through

various cks.; T.P. 1,350 lbs.; C.P. 1,-900 lbs.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Colmier, sec. 4-6s-5e. T.D. 4,364 ft.; P.B. to set whipstock at 3,650 ft.; T.D. 5,216 ft.; abd.

Pan American Prod. Co. No. 2 Haas Hirsch, sec. 4-6s-5e. Drk.

Texas Co. No. 1 Lahaye, sec. 4-6s-5e. Oil sd. 5,445-51 ft.; abd. 5,702 ft.

St. Martinville—St. Martin Parish

Tide Water Oil Co. No. 1 Domengeaux (formerly Coastal Plains Oil Corp.), sec. 57-11s-6e. O.W.D.D.; T.D. 5,841 ft.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 5 United Lands, sec. 15-10s-4e. Cg. oil sd. 4,300 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 829 fee, sec. 29-9s-10w. Sh. 3,801 ft.; no report.

Union Sulphur Co. No. 830 fee, sec. 29-9s-10w. Sh. 3,225 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 5-A Homeseekers Dev. Co. Drlg. sh. 6,919 ft.

Continental Oil Co. No. 6-A Homeseekers Dev. Co., sec. 29-7s-2w. Drk.

Continental Oil Co. No. 2 Klump, sec. 34-7s-2w. R.U.

Continental Oil Co. No. 3-A Welch, sec. 28-7s-2w. T.D. 8,315 ft.; I.P. 275 B.P.D.; 9/64-in. ck.; C.P. 1,250 lbs.; T.P. 1,200 lbs.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 1 fee, sec. 34-10s-12w. Drlg. sh. 4,618 ft.

White Castle—Iberville Parish

Shell Pet. Corp. No. 3 Shingle, 650 ft. S. 600 ft. E of NW cor. sec. 12-11s-12e. Drlg. sh. 5,043 ft.

S. LOUISIANA WILDCATS

Allen Parish

Humble O. & R. Co. No. 2 Bell est., 933 ft. N and E, sec. 28-6s-7w. Drlg. sh. 7,010 ft.

Avoyelles Parish

Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

Buhler Oil Co. No. 2 Faisst, sec. 26-8s-10w. Old TD. 4,412 ft.; S.D. 3,755 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Hebert, sec. 13-12s-9w. Tstd. S.W. on 20-min. D.S.T. 8,-704-30 ft.; S.D.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. S.D. 300 ft.

Cavalier Oil Co. No. 1 Young, sec. 62-4s-2w. Drk.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Iberia Parish

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e. T.D. 8,810 ft.; P.B. to 8,483 ft.; perf. from 8,460-66 ft.; P.B. to 8,183 ft.; P.B.; sh. 6,421 ft.; no report.

Jefferson Lake Oil Co. No. 322 State Lake Pleigneur. T.D. 5,690 ft.; P.B. 3,000 ft.; milling out at 5,586 ft.

Texas Co. No. 1-B State, Vermillion Bay, sec. 20-15s-6e. Drlg. sh. 1,784 ft.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Lacassine, sec. 20-11s-5w. T.D. 9,844 ft.; P.B. 9,252 ft.; perf. csg. 9,150-62 ft.; swbd. S.W.; P.B. to 8,950-60 ft.; flwd. S.W.; P.B. 8,664 ft.; W.O.C.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. Drlg. sh. 7,403 ft.

Strake Oil Corp. No. 1 Onezia Miller Est., sec. 7-9s-5w. Drlg. hd. L. 8,352 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunes, sec. 19-13s-12e. S.D. 2,641 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e. T.D. 7,522 ft.; top salt 7,492 ft.; P.B. to 2,690 ft.; T.D. sdtkd. hole 5,200 ft.; drill pipe stuck.

St. Martin Parish

Texas Co. No. 2 State, sec. 14-10s-9e. T.D. 7,349 ft.; P.B. 7,150 ft.; to sdtk.

Texas Co. No. 8 St. Martins Land, sec. 17-8s-7e. Drlg. sh. 8,405 ft.

St. Mary Parish

Mike Hogg et al No. 1 Laws Realty Co., Inc., sec. 30-13s-16e. Drlg. sh. 2,000 ft.

Terrebonne Parish

J. B. Beck et al No. 1 Realty Operators, sec. 103-17s-17e. Drlg. gbo. 1,450 ft.

Humble O. & R. Co. No. 1 Continental Land & Fur Co., sec. 30-17s-14e. Cg. sd. 6,598 ft.

Vermillion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 10,960 ft.; 7-in. csg. cmtd. on bottom; W.O.C.

Delcambre & Shelton No. 1 Delcambre, sec. 62-12s-6e. S.D. 2,708 ft.

Del-Shell Exploration Co. No. 1 Landry heirs, sec. 1-13s-4e. No report.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-15s-1e. Bldg. foundations.

TEXAS

Week Ending July 18

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 18-X Paine, Wm. C. White Sur. T.D. 3,375 ft.; D.S. stuck.

Hastings—Brazoria County

Humble O. & R. Co. No. 6 Cannon, H.T.& B. Sur. T.D. 6,060 ft.; 7-in. csg. 5,843 ft.

Stanolind O. & G. Co. No. 1-B Avitts, H.T.&B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 1 Wm. R. Curkett, H.T.&B. Sur. No. 35. Rig.

Stanolind O. & G. Co. No. 1 Elliott, Wm. Henry Sur. Drlg. sd. 5,270 ft.

Stanolind O. & G. Co. No. 1 Reichardt, H.T.&B. Sur. No. 29. Drlg. sh. and L. 4,785 ft.

Stanolind O. & G. Co. No. 1 Rosmussen & Moore, Moore and Rasmussen Sur. T.D. 6,069 ft.; 7-in. csg. at 6,040 ft.; I.P. 321 bbls. in 19 hrs.; ¼-in. ck.; T.P. 560 lbs.; C.P. 600 lbs.

Stanolind O. & G. Co. No. 6 Shaw, H.T.&B. Sur. No. 36. T.D. 6,000 ft.; 7-in. csg. 5,-752 ft.; I.P. 440 bbls. in 17½ hrs.

Stanolind O. & G. Co. No. 6 Williams, A.C.H.&B. Sur. Drlg. sh. 4,024 ft.

Danbury—Brazoria County

Humble O. & R. Co. No. 1 Moller, S. A. Towsey Sur. Cg. sd. 3,860 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Armstrong Plantation fee, Polly and Chance Sur. Cg. sh. 9,057 ft.

Manvel—Brazoria County

Texas Co. No. 2-B Helene J. Way, T. Spraggins Sur. Drlg. sh. 4,186 ft.

Texas Co. No. 22 Houston Oil Field Assn., A.C.H.&B. Sur. No. 1. T.D. 5,770 ft.; 7-in. csg. 5,769 ft.; tstg.

Texas Co. No. 2 Richards, Lot 6. H.T.&B. Sur. Drk.

West Columbia—Brazoria

Sterling O. & R. Co. No. 1 J. A. Phillips, Geo. Kennilee Sur. Drk.

Texas Co. No. 13 Abrams, George Tennille Sur. T.D. 3,539 ft.; P.B. to 3,050 ft.; 7-in. csg. 3,033 ft.; perfd. 11 shots 3,023-43 ft.; P.B. to 2,979 ft.; I.P. 75 B.P.D.; pmpg.

Texas Co. No. 85 Hogg, Geo. Tenille League. Drlg. sh. and L. 2,660 ft.

Heyser—Calhoun County

Al Buchanan No. 1 P. H. Welder, D. L. Palmer Sur. R.U.

Humble O. & R. Co. No. 2 Welder, Jose Maria Rios Sur. T.D. 5,473 ft.; 7-in. csg. pulling tbg. to rework after showing high gas-oil ratio.

Anahuac—Chambers County

Gulf Oil Corp. No. 3 Knowles. Drlg. sh. 6,584 ft.

Humble O. & R. Co. No. 1 Boyt, sec. 44, H.&T.C. Sur. 10¾-in. csg. 1,537 ft.

Humble O. & R. Co. No. 11 Engels, H.& T.C. Sur. Drlg. sh. 5,664 ft.

Humble O. & R. Co. No. 2 C. C. Johnson, H.&T.C. Sur., sec. 49. Abd. 8,000 ft.

Humble O. & R. Co. No. 19 Middleton, H.&T.C. Sur. T.D. 7,085 ft.; 7-in .csg. 7,055 ft.; I.P. 26 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 7 Tyrell, sec. 52. H.&T.C. Sur. T.D. 4,350 ft.; P.B. 4,190 ft.; W.O.C.

Humble O. & R. Co. No. 12 Terrell, H.&T. C. Sur. Abd. 7,175 ft.

Humble O. & R. Co. No. 2-B White, James McGahey Sur. T.D. 7,113 ft.; rng. 7-in. csg.

Humble O. & R. Co. No. 12 White, James McGahey Sur. T.D. 7,116 ft.; rng. 7-in. csg. 7,101 ft.

Humble O. & R. Co. No. 5 Zappe, sec. 51, H.&T.C. Sur. Drlg. sh. 5,680 ft.

Sun Oil Co. No. 15 White J. McGahey Sur. T.D. 7,100 ft.; 7-in. csg. at 7,080 ft.; I.P. 678 B.P.D.; ¼-in. ck.; C.P. 1,050 lbs.; T.P. 1,000 lbs.

Sun Oil Co. No. 17 White, James McGahey Sur. Drlg. sh. and L. 4,746 ft.

Sun Oil Co. No. 20 White, James McGahey Sur. Drk.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 3 State Land. Driving piling.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 49 Davis, B. Young League. T.D. 4,080 ft.; I.P. 300 B.P.D.

Orchard—Fort Bend County

Gulf Oil Corp. No. 46 Moore, Leo Burknapp Sur. Drlg. sh. and L. 3,639 ft.

Gulf Oil Corp. No. 47 Moore, Leo Burknapp Sur. T.D. 1,266 ft.; I.P. 143 bbls. in 24 hrs.; ¼-in. ck.

High Island—Galveston County

Stanolind O. & G. Co. No. 57-A Cade, N. Fitzsimmon Sur. Sdy. L. 4,390 ft.

Stanolind O. & G. Co. No. 1 Cooper, M. Dunman Sur. T.D. 5,715 ft.; rmg. 4,-770 ft.

Stanolind O. & G. Co. No. 8 B.&O. fee, M. Dunman Sur. Drlg. sdy. L. 4,347 ft.

Dickinson—Galveston County

Humble O. & R. Co. No. 4-B Stewart, John Sellers Sur. T.D. 8,344 ft.; tstd S.W. on D.S.T. 8,020-8,115 ft.

Humble O. & R. Co. No. 6-B Stewart, W. K. Wilson Sur. T.D. 8,055 ft.; 7-in. csg. 8,045 ft.

Humble O. & R. Co. No. 4 E. E. Townes, J. S. Jones and B.B.B.&C. Ry. T.D. 8,-025 ft.; top sd. 7,997 ft.; 7-in. csg. at 8,000 ft.; perf. lnr. 8,022-27 ft.; I.P. 23 B.P.H.; ¼-in. ck.

Kenben Oil Co. No. 2 Stewart, W. K. Wilson Sur. Spudded.

Stanolind O. & G. Co. No. 5 State, Tract 3 T.D. 9,160 ft.; 7-in. csg. at 7,992 ft.; P.B. to 7,990 ft.; I.P. 248 B.P.D. through 5/32-in. ck.; T.P. 3,000 lbs.

Stanolind O. & G. Co. No. 6 State River Bed. Drk.

Arriola—Hardin County

Republic Prod. Co. No. 13 Arriola fee, Arriola League. T.D. 3,260 ft.; 9⅝-in. csg. at 3,240 ft.; comp.; no gauge.

Batson—Hardin County

Gulf Oil Corp. No. 175 Wing, F. H. Green Sur. Drlg. sh. 1,012 ft.

Lacawanna Prod. Co. No. 1 Butler, W. Donoho Sur. S.D. 5,465 ft.; (corrected).

Saratoga—Hardin County

Rio Bravo Oil Co. No. 152, Cotton tr. T.D. 1,096 ft.; oil sd.; tstg.

Eureka—Harris County

Houston Oil Co. No. 1 Helberg & Lackner, John Rinerman Sur. 7-in. csg. 4,-962 ft.; drlg. plug.

Mykawa—Harris County

West Prod. Co. No. 1 Minnetex, W. Lovett Sur. T.D. 5,943 ft.; P.B. 5,632 ft.; W.O.C.

Pierce Junction—Harris County

Rio Bravo Oil Co. No. 14-B Settegast, J. Kappman Sur. T.D. 4,554 ft.; perfd. 3,678-3,722 ft. with 48 shots; failed to flow; R.U. to pmp.; I.P. 80 B.P.D.; pmpg.

Gulf Oil Corp. No. 12 Cain, J. Hamilton Sur. Drlg. sd. 3,990 ft.; tstg.

South Houston—Harris County

R. W. O'Meara No. 1 Sophia Williams, H. T.&B. Sur. Loc.

Dick Schwab No. 2 Williams, H.T.&B. Sur. Cg. sh. 4,670 ft.

Smith & McDannald No. 1 Lamb, H.T.&B. Sur. T.D. 3,980 ft.; 7-in. csg. 3,920 ft.

Smith & McDannald No. 1 Vallos, H.T.&B. Sur. T.D. 1,075 ft.

Stanolind O. & G. Co. No. 1 Minnie Barrett, H.T.&B. Sur. No. 6. T.D. 4,800 ft.; 7-in. csg. at 4,719 ft.; I.P. 314 bbls. in 18 hrs.; ¼-in. choke; T.P. 1,800 lbs.; C.P. 2,000 lbs.

Stanolind O. & G. Co. No. 2 District 17, Blk. "A." T.D. 4,685 ft.; rng. csg.

Stanolind O. & G. Co. No. 1 Holder, Unit 5, So. Houston Gardens No. 6. T.D. 4,-775 ft.; 7-in. csg. 4,596 ft.

Stanolind O. & G. Co. No. 1 Johnson, H. T.&B. Sur. No. 36. 10¾-in. csg. 1,426 ft.; T.D. 1,454 ft.

Stanolind O. & G. Co. No. 1 C. C. Mathews, H.T.&B. Sur. No. 6. Cg. sdy. sh. 4,552 ft.

Stanolind O. & G. Co. No. 1 Pittman, H. T.&B. Sur. No. 6. T.D. 4,800 ft.; 7-in. csg. 4,697 ft.

Stanolind O. & G. Co. No. 1 J. C. Vann, H.T.&B. Sur. No. 6, Unit 8. Drlg. sh. and L. 1,275 ft.

Sterling O. & R. Co. No. 1 Houston Electric Co., interurban right of way. T.D. 4,718 ft.; top oil sd. 4,718 ft.; rng. 7-in. csg.

Tomball—Harris County

Humble O. & R. Co. No. 3 Handy J Pruitt Sur. T.D. 5,561 ft.; I.P. 116 B.P. H.; ¼-in. ck.; T.P. 250 lbs.

Humble O. & R. Co. No. 1 Hegar, C. Marriott Sur. Drlg. sh. 1,825 ft.

Humble O. & R. Co. No. 4 Hoffman, I.& G.N. Sur. T.D. 5,558 ft.; 7-in. csg. at 5,551 ft.; I.P. 20 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 3 Holderrieth, C. N. Pillot Sur. Drlg. sd. and sh. 5,-533 ft.

Humble O. & R. Co. No. 1 Tomball, Townsite Unit No. 3, J. Housed, Wm. Hurd Sur. R.U.

Amelia—Jefferson County

Glenn H. McCarthy, Inc., No. 1 Langham, H. Williams Sur. T.D. 6,766 ft.; S.W. sd.; rng. 5½-in. csg. to test 5,996-6,-002 ft.; tstd. S.W.; abd.

Humble O. & R. Co. No. 2 S. Pinchback C. Williams Sur. T.D. 6,781 ft.; W.O.C. after setting lnr.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin and Davis, Wm. McFaddin Sur. T.D. 6,742 ft.

Fanneti—Jefferson County

Gulf Oil Corp. No. 10 Burrell, W. H. Smith Sur. S.D. 4,515 ft.

Esperson—Liberty County

General Crude Oil Co. No. 26 Esperson, C. W. Fisher Sur. T.D. 4,127 ft.; I.P. 99 bbls. in 24 hrs.' pmpg.

General Crude Oil No. 16 Moores Bluff. T.D. 4,067 ft.; comp. for gas well.

Hankamer—Liberty County

Uscan Oil Co. No. 5 Exxell, Levi Borrow Sur. T.D. 5,590 ft.; fsg.

Van Vleck—Matagorda County

Skelly Oil Co. No. 3-B Cobb, M. Cummins Sur. T.D. 7,495 ft.; perf. csg. 7,480-95 ft.; I.P. 33 B.P.H.; ¼-in. ck.

Skelly Oil Co. No. 1 Langham, M. Cummings Sur. T.D. 8,248 ft. oil sd.; flwd. 22 bbls. of fluid per hr., 30% S.W.; killed well to make squeeze job.

Skelly Oil Co. No. 2 Metzler, M. Cummins Sur. Drk.

Skelly Oil Co. No. 1 G. Moore, I.&G.N. Sur. T.D. 7,495 ft.; perf. csg. 7,480-95 ft.; I.P. 32 B.P.H.; ¼-in. ck.; T.P. 800 lbs.; C.P. 1,100 lbs.

Livingston—Polk County

Humble O. & R. Co. No. 19 Granbury, A. Viesca Sur. 9⅝-in. csg. 558 ft.; sh. and L. 3,880 ft.

Greta—Refugio County

Hewitt & Daugherty No. 27 Lambert, Swisher Sur. 10¾-in. csg. 953 ft.; W.O.C.

Josey & Bruton No. 1 Lambert, Swisher Sur. R.U.

National Pet. Corp. No. 1 S.L.B.&M.R.R. Blew out; T.D. 4,400 ft.

United Prod. Co. No. 26 Lambert, Swisher Sur. Drlg. sh. 4,945 ft.

Refugio—Refugio County

United Gas Co. No. 19 Fox. T.D. 5,150 ft.; P.B. 2,129 ft. to sdtk.

Tomoconnor—Refugio County

Quintana No. 1 Heard, Ximines Sur. T.D. 5,911 ft.; 5-in. csg. 5,910 ft.; W.O.C.

Quintana Pet. Corp. No. 2-C Tomoconnor, Swisher Sur. Top oil sd. 5,707 ft.; T.D. 5,922 ft.; W.O.C.

Placedo—Victoria County

Barnsdall-American Liberty No. 3 W. R. Smith, A. Murphy Sur. T.D. 5,345 ft.; prep. to making D.S.T.

Commonwealth No. 3 Prencia, J. M. Bronson Sur. Drk.

Crown Central Pet. Co. No. 4 Gebrauer, S.A.&M.G. Sur. T.D. 4,784 ft.; 7-in. csg. 4,760 ft.; I.P. 11 B.P.H.

Eastern Texas Oil Co. No. 3 Hosek, S.A.& M.G. Sur. No. 7. Drk.

Haynes B. Ownby No. 3 Malik, S.A.&M. G. Sur. R.U.

Magnolia Pet. Co. No. 1 Klor, S.A.&M.G. R.U.

Clay Creek—Washington County

Sun Oil Co. No. 7 Caraway, J. F. Perry Sur. T.D. 1,773 ft.; I.P. 100 B.P.D.

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. T.D. 6,752 ft.; fsg.

Louise—Wharton County

Pure Oil Co. No. 6 Chas. T. Kauntze, Morris-Cummins Sur. T.D. 5,182 ft.; P.B. to 5,166 ft.; prep. to perf. csg.

Pure Oil Co. No. 5 McIntyre, Morris-Cummins Sur. T.D. 5,166 ft.; I.P. 24 B.P.D.; ¼-in. ck.

Pickett Ridge—Wharton County

Adrian Moore No. 1 W. P. Wilbeck, J. Tele Foriner Sur. T.D. 4,719 ft.; perf. 4,-701-02 ft. with 12 holes; swbd. S.W.; made squeeze job 4,701-02 ft.; I.P. 10,-000,000 ft. of gas per day and 10 bbls. of oil through ¼-in. ck.; T.P. 1,850 lbs.

Rio Bravo Oil Co. No. 1 T.&N.O. R.R. Co., I.&G.N. Sur. No. 39. T.D. 4,696 ft.; 7-in. csg. 4,691 ft.; W.O.C.

Texas Co. No. 25-A Pierce, I.&G.N. Sur. T.D. 4,708 ft.; 7-in. csg. 4,701 ft.; I.P. 18 B.P.H.; ¼-in. ck.

Texas Co. No. 26-A Pierce, I.&G.N. Sur. No. 38. Drlg. sh. 1,738 ft.

Texas Co. No. 27-A Pierce, I.&G.N. Sur. No. 38. Drlg. sh. 1,323 ft.

Withers—Wharton County

Texas Co. No. 2-B Pierce, Pierce Est., Blk B. T.D. 5,543 ft.; tstd. oily mud on D.S.T.

Texas Co. No. 3-C Pierce, Wm. Pettus Sur. T.D. 5,575 ft.; P.B. 5,587 ft.; perf. csg. 5,562-69 ft.

Texas Co. No. 9-C Pierce, John Caldwell Sur. Drlg. sh. and L. 5,212 ft.

GULF COAST WILDCATS

Austin County

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. Drlg. sh. 1,525 ft.

Brazoria County

Gulf Oil Corp. No. 1 Fairfield, A. Robinson Sur. T.D. 8,689 ft.; rng. 5-in. csg.

Strake Oil Corp. et al No. 1 D. K. Poole, J. W. Hardin Sur. T.D. 7,509 ft.; S.D.

Texas Co. No. 1 Robbins, J. W. Brougham Sur. Bldg. drk.

Chambers County

Glenn H. McCarthy No. 1 Kilgore, J. Townsend Sur. R.U.

Calhoun County

Continental Oil Co. No. 1 Austin Estate, sec. 12, Blk. H. T.D. 6,614 ft.; 9⅝-in. csg. 6,598 ft.; drlg. sh. 8,347 ft.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E. South, I.&G.N. Sur., sec. 41. Rig and S.D.

Fort Bend County

Texas Co. No. 1 Sugarland, Inc., John Foster Sur. Drlg. sh. and L. 4,795 ft.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart. Spillman Sur. Cg. sd. 6,457 ft.

Sun Oil Co. No. 1 Houston Farms, D. Buckley Sur. 13⅜-in. csg. 1,453 ft.; W. O.C.

Sun Oil Co. No. 2 Hughes, W. C. M. Baker Sur. T.D. 4,929 ft.; rng. electrical cg. test.

Hardin County

S. Hindman No. 1 Howth, A. J. Cotton Sur. Cg. S.W. sd. 5,515 ft.

Republic-Houston Oil Co. No. 1 Brooks. T.D. 6,840 ft.; tstd. 410 lbs. W.P. on 6-min. D.S.T. 6,730-6,840 ft.

Harris County

Bunte O. & G. Co. No. 1 Lobit et al, Benjamin Barrow Sur. Drk.

Zeni Oil Co. No. 1 W. A. Perkins, A. Sherrell Sur. T.D. 6,094 ft.; abd.

Houston County

Ellison & McBride No. 1 Bean, E. Stedman Sur. T.D. 6,040 ft.; 7-in. csg. 6,029 ft.; W.O.C.; tstd. 8,000,000 ft. of gas and 5 bbls. distillate per hr.; ¼-in. ck.

Walter Goldston No. 1 Burns, Juan La Reviere Sur. Drlg. sdy. sh. 2,590 ft.

Jackson County

Steinberger Pet. Corp. No. 1 Drushel, F. Rodrigues Sur. T.D. 5,136 ft.; hole bridged; drlg. 1,220 ft.

Jefferson County

Shell Pet. Corp. No. 1 Carpenter, M. E. Pivoto Sur. T.D. 6,888 ft.; P.B. 6,058 ft.; recovered 40 stands of P.L. oil on D.S. T. from 5,990-6,058 ft.

Sun Oil Co. No. 1 Herbert & Broussard, B. Blackman Sur., Abst. No. 2. T.D. 9,-848 ft.; gas sd.; drill pipe stuck; fsg.

Lavaca County

Cole Pet. Co. No. 1 Reed-Nollkamper, A. Smothers Sur. S.D. 2,395 ft.

Matagorda County

Marathon Oil Co. No. 1 Kountze, I.&G.N. Sur. No. 11. Drlg. sh. 5,300 ft.

Pierce Estate Inc. No. 1 Fee, Wm. Brown Sur. Drlg. sdy. sh. 6,564 ft.

Sun Oil Co. No. 1 Craig, Thomas Williams, Sur. T.D. 6,326 ft.; P.B. 5,850 ft.; perf. csg. 5,340-95 ft.; swbd. dry; perf. csg. from 5,240-95 ft.; P.B. to 5,180 ft., to perf. from 5,150-75 ft.; swbd. 36 bbls. in. 24 hrs.

Tetts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. Rng. 15-in. csg. 1,600 ft.

Texas Gulf Prod. Co. (H. M. Smith) No. 2 Wadsworth, S. R. Fisher Sur. Drlg. rock 4,610 ft.

Montgomery County

W. O. Bilonski et al No. 1 J. W. Wood, Wm. Weir Sur. T.D. 3,757 ft.; shut in; T.P. 1,185 lbs.; C.P. 1,385 lbs.; prep. to deepen.

Fohs-Blumenthal No. 1 Central Coal & Coke Co., J. Stockley Sur. Drk.

Orange County

Tide Water Oil Co. No. 1 E. N. Brown, Mary Latham Sur. T.D. 7,706 ft.; abd.

Refugio County

Benedum & Trees No. 1 R. H. Welder, Juan Pabedan Sur. R.U.

Mills Bennett Prod. Co. No. 1 Walzell, E. Lopez Sur., Bonnie View Addn. Drlg. sd. 6,002 ft.

San Jacinto County

J. A. Deering No. 1 Randolph, V. Flores Sur. Drlg. sh. 3,367 ft.

Tyler County

McArthur & Mixon No. 1 D. D. Kounts, J. A. Honkins Sur. T.D. 65 ft.

Walker County

L. M. Gay et al No. 1 M. E. Stubblefield, G. Bodilla Sur. R.U.

Wharton County

Cockburn Oil Co. No. 1 Fee, J. Smith & H. McKinzie Sur. Drk.

Pure Oil Co. No. 1 A. P. Borden et al, W. H. Leckie Sur. No. 25. T.D. 4,103 ft.; prep. to core.

Pure Oil Co. No. 1 Sam Shultz, L. P. Odgen Sur. No. 108. Drlg. sh. 6,114 ft.

S. W. TEXAS WILDCATS

Aransas County

Buckingham Oil Co. No. 1 McCampbell, sec. 41-42, James Arids Sur. Sd. 6,554-60 ft.; set csg. 6,560 ft.; drlg. in.

Atascosa County

Atascosa Trust No. 1 Domsch, 160 ft. S line, 360 ft. E line, 152-ac. lease, J. T. Russell Sur. 1,222. Cg. sh. 3,711 ft.

Helvetia Oil Co. No. 1 S. Pratt, 1,400 ft. NW line, 3,470 ft. SW line, J. de la Garza Sur. Sd. 2,245-90 ft.; set csg. 2,456 ft.

Bee County

H. A. Pressey No. 1 Hicks, 1,450 ft. S line, 150 ft. W line lease, J. of Uranga gr. Sd. 3,537-55 ft.; S.O.; T.D. 3,572 ft.; swbg.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lse., B. Garcia tr., Salinas Sur. T.D. 8,022 ft.; P.B. 3,693 ft.

Burleson County

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line, E. Santel Sur. Bldg. drk.

Caldwell County

Elam et al No. 1 Francis, 450 ft. SW and SE lines, 291-ac. tr., Young Sur. Sd. 1,740-45 ft.; S.O.; set csg.

L. M. Kniffin No. 1 Young, 1,000 ft. W line, 150 ft. S line, 264-ac. tr., J. R. Miller Sur. R.U.

Wheelock & Collins No. 1 Alexander, 150 ft. NE line, 1,095 ft. NW line, 158-ac. tr., Spiller Sur. Drlg. 312 ft.

Dewitt County

L. W. Capps No. 1 Buchoun, 150 ft. N and E lines, S. V. Slade Sur. Drlg. 2,216 ft.

Universal Oil, Gas & Mining Co. No. 1 Schuebel, 330 ft. S and W lines tr., Fitzgerald gr. S.O. 1,559 ft.; bailed wtr.; to core deeper; drlg. 1,573 ft.

Duval County

Conservative Oil Co. No. 1, D.C.R.C. Sur. 51. D.&A. 2,317 ft.

Conservative Oil Co. No. 2 D.C.R.C., 990 ft. SE line, 330 ft. NE line, NW¼, Sur. 51. Skidding on.

Gifford Oil Co. No. 1 Roach, Sur. 206. Drlg. 372 ft.

C. G. Glasscock No. 2 Milano S.&G. Co., 330 ft. N line, 2,310 ft. E line, Sur. 88. Cd. sd. 3,275-91 ft.; set 7-in. csg. 3,273 ft.; swbd. dry; D.&A. 3,405 ft.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 260. T.D. 5,150 ft.; S.D.

Hamil & Smith No. 1 Benavides, Subd. 1, J. B. Sands, Mesquite Sur. Drlg. 3,455 ft.

Randon Oil Co. No. 1 Central Securities, 330 ft. N and W lines, Lot 23, Hinoso Gr. D.&A. 4,605 ft.

Rogers & Rogers No. 1 E. R. Hagist, 330 ft. S and W lines, Lot 14, sec. 265. D.S.T. 1,467-83 ft.; 25-min. 20 ft. oil; 30 ft. oil and S.W.; 1,000 ft. S.W.; cg. deeper 2,287 ft.

Goliad County

C. Morgan No. 1 Metz, 4,290 ft. N line, 330 ft. E line tr., G. Barrera Sur. Drlg. sd. 4,113 ft.

Zeni Oil Co. No. 3 Lutenbacher, 330 ft. N and W lines, SE¼, sec. 25. Top Pettus sd. 5,365 ft.; show of saturation; set 7-in. csg. 5,352 ft.; drld. in to 5,369 ft.; blew in for short time; shut in; cg. deeper 5,372 ft.

Guadalupe County

Long & Ross No. 1 Felix, 75-ac. tr., Duran Sur. R.U.

Riddle Oil Co. No. 1 Notle, Lowell Sur. No. 16. M.I.M.

Hidalgo County

Gulf States Oil Co. No. 3 John Engleman, Lot 3, Blk. 70. T.D. 6,812 ft.; sh.; tstg. sd. 6,686-91 ft.

Jim Hogg County

Theo. Hicks No. 1 Kohler, sec. 9, Norias-citas Gr. M.I.M.

Neuhaus & Meek No. 1-A Martinez, 1,540 ft. N line, 330 ft. E line, sec. 623. Set csg. 100 ft.; W.O.C.

Jim Wells County

R. A. Graddy No. 1 Bennett, 330 ft. N and W lines, Lot 87, sec. 76. S.D.; T.D. 1,-110 ft.

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines, Sur. 151. Drlg. 2,727 ft.

La Jita Corp. No. 1 Schallert, 3,919 ft. S line, 2,097 ft. E line tr., Las Presenos Abajo Gr. M.I.M.

Karnes County

R. L. Barnett No. 1 fee, NE cor. 668-ac. tr. S.D. for floods 1,820 ft.

Worth Oil Co. No. 1 Hysaw, 1,070-acre tract, Sequin grant. M.I. rotary.

Kleberg County

E. B. Clark No. 1 Kivlin, 150 ft. N and E lines, Blk. 8, sec. 39, Kingsville Town & Improvement Subd. S.D. 1,319 ft.; (corrected).

LaSalle County

Kennedy & Johnston No. 1 Gilman & Wildenthal, 330 ft. NW and NE lines, 140-a. tr., Sur. 283. Rebldg. drk.

Hartmangruder Drlg. Co. (Paul Meador) No. 1 Reed, sec. 136. Drlg. in sdtkd. hole 3,706 ft.

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. Rebldg. drk.

Live Oak County

Carroll Brown No. 1 Rackley, E½, 130-ac. tr., Sparks Sur. A-781. M.I.M.

Dirks Bros. No. 1 Nichols, 790 ft. S line, 365 ft. W line, S. Ryan Sur. A-35. T.D. 4,300 ft.; D.&A.

O. Dovre No. 1 San Antonio Joint Stock Land Bank, 150 ft. N line, 725 ft. E line, Plat 27, Tips Subd., Everett Sur. S.D. 2,002 ft.

J. J. McRoberts No. 1 Mahoney, 3,100 ft. SW Junction Three Rivers, Tilden Highway and Thomas Henry Sur. lines, 150 ft. N. Drlg. 1,023 ft.

Smith & Storey No. 3 Dinero townsite, Jane Curry Sur. R.U.

Maverick County

Rio Dev. Co. No. 1 Winchester Kelson, 150 ft. W line, 750 ft. S line, E½, 130-ac. tr. spudding.

McMullen County

R. J. Hill No. 1 Richardson, 990 ft. E line, 1,650 ft. N line, Sur. 158. S.D. 2,-237 ft.

C. I. Jennings No. 1 Regan, 1,070 ft. S. Frio River, 330 ft. W line, 642-a. tr., Haley gr. Drlg. 793 ft.

Ranch Oil Co. No. 1 La Chusa, 330 ft. N and W lines, SE¼, Sur. 52. Loc.

C. C. Shumway No. 9 Shiner, 330 ft. N and W lines, NE¼ sec. 51. Drlg. 1,024 ft.

Medina County

Thomas & Rife No. 1 Zadick, 2,300 ft. N line, 250 ft. W line, Lubbock Sur. 509. Set surf. csg.; W.O.C.

Milam County

J. C. Kilgore No. 1 Newton, J. Reed Sur. Drlg. 2,526 ft.

Nueces County

W. D. Hines No. 1 Fiato, NW cor. Driscoll townsite. T.D. 6,068 ft.; D.&A.

G. M. Richardson No. 1 Carter, cen. NW¼, SE¼, sec. 8, Laureles Farm tracts. Loc.

San Patricio County

Atlantic Oil Prod. Co. No. 1 Maryland Trust Co., cen. W½, Lot 11, Blk. 42, McCampbell Subd. Twisted off D.S. 5,350 ft.; P.B.; set whipstock 4,904 ft.

Benedum & Trees Oil Co. No. 2 Welder, sec. 19. T.D. 7,015 ft.; D.&A.

L. A. Douglas and Empire O. & R. Co. No. 1 Konze, 330 ft. N and E lines, sec. 15, Tr. 2. Loc.

O. W. Killiams No. 1 Green, 150 ft. E and NW lines tract, Geo. H. Paul Subd. R.U.

Joe Lundins No. 1 Welder, 330 ft. N and W lines, sec. 30, Paul Subd. Fsg. 5,005 ft.

Plymouth Oil Co. No. 2-D Welder, 466 ft. N and E lines, sec. 4. Sd. 5,533-41 ft.; S.O.; set csg.; W.O.C.

K. Sharp et al No. 1 McGloin, 330 ft. S and W lines, sec. 33, Paul Subd. M.I.M.

Taft Prod. Co. No. 1 Thomas, 150 ft. N & E lines, sec. 6, 2nd Addn. Taft Farm Lands. T.D. 6,008 ft.; D.&A.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1 Porc. 79, J. of Camargo. Drlg. 2,332 ft.

Porter Evans No. 1 Ferry, C Lot 3, Porc. 86. M.I.M.

Porter Evans No. 1 Starr County Cattle Co., Lot 14, Evans Subd., Sh. 60, Porc. 89, J. of Camargo. T.D. 3,210 ft.; D.&A.

Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485. M.I.M.

A. A. Kelly No. 1 Guerra & Son, Blk. 25, Porc. 55. Spudded in; S.D.

Ed Leach No. 1 Dana Est., Porc. 84, J. of Camargo. T.D. 1,595 ft.; S.D.

Killam & Stagg No. 3 Sanford Ricaby, 2,-000 ft. SE of No. 2, Porc. 83. Set surf. csg. 150 ft.; W.O.C.

Webb County

Mid-Continent Pet. Corp. and Oklahoma Co. of Texas No. 1 Laubscher, 330 ft. NE and NW lines, NW¼, sec. 1,394. R.U.

Starr Dev. Co. No. 1 Benavides, Sur. 173. T.D. 3,010 ft.; D.&A.

Willacy County

M. E. Morton et al No. 1 Santa Rosa, 330 ft. N and E lines, Lot 12, Blk. 31, Santa Rosa Subd., Sh. 44. Spudded; S.D.

Shell Pet. Corp. No. 1 Yturria Land & Cattle Co., 990 ft. S and E lines, Share 64, San Juan de Carricitos Gr. Cg. sd. 6,795 ft.

Wilson County

A. G. Reimenschneider No. 2 L. Harrell, 750 ft. NE line, 2,300 ft. NW line, Barrera Sur. S.D. 740 ft.

Zavalla County

Bay Oil Co. No. 1 Nat. Bank of Commerce, sec. 43, A.B.&M. Sur. T.D. 6,585 ft.; P.B. 6,252 ft.; cleaning hole to 6,480 ft.; to drill to Edwards.

Frank Buttram No. 1 Whitecotton, 3,400 ft. N line, 300 ft. W line, A.B.&M. Sur. T.A. 5,510 ft.

S. W. TEXAS PROVEN

Dirks—Bee County

Sunburst Oil Co. No. 3 Boothe, A. Walker Sur. M.I.M.

Voss—Bee County

R. B. Swiger No. 1-A Voss, 330 ft. N and E lines, 101-ac. tr., S. May Sur. M.I.M.

Alta Verde—Brooks County

Fairway Prod. Co. No. 1 Singer, Sur. 313. T.D. 1,006 ft.; D.&A.

Nordan, Morris & Nash No. 3 Singer, Sur. 436. Drlg. 765 ft.

Lytton Springs—Caldwell County

H. Baugh No. 1 Brewer, 500 ft. NE line, 400 ft. SE line tr. R.U.

Driscoll—Duval County

Continental Oil Co. No. 10-A Sevier, Sur. 448. Drlg. 2,196 ft.

Eagle Hill—Duval County

Al Buchanan No. 7 D.C.R.C., 2,310 ft. E line, 330 ft. N line, S½ N½, Sur. 206. Sd. 2,197-2,213 ft.; S.G.; set csg. 2,195 ft.; W.O.C.

Government Wells—Duval County

Morris Stein No. 1 Hahl, 160-ac. tract, Sur. 47. Spudded. S.D.

J. T. Stover No. 1 Hester, 330 ft. S and E lines, SW¼, NE¼, Sur. 47. Sd. 2,251-60 ft.; set csg.; stdg.

Hoffman—Duval County

Duval Oil Corp. No. 1 Green, 330 ft. SW and SE lines tr., Sur. 118. M.I.M.

Duval Oil Corp. No. 5 Ruiz, Sur. 119. Comp.; est. 400 B.P.D.; sd. 2,863-76 ft.

Ralph E. Fair No. 1 Hoffman, 990 ft. NW line, 1,650 ft. NE line, Sur. 114. T.D. 3,000 ft.; D.&A.

W. D. Masten No. 1-A Ruiz, 380 ft. NE line, 320 ft. SE line, NW¼ Sur. 128. T.D. 2,854 ft.; D.&A.

Navarro Oil Co. No. 1 Peters, Sur. 39. Comp.; 15,000,000 ft. gas on ½-in. ck.; T.D. 3,005 ft.

Rogers & Rogers No. 2 Cuellar, 330 ft. NW and SE lines, sec. 117. Spudded in.

Rogers & Rogers No. 4 Hoffman, 330 ft. SW and NW lines tr., Sur. 118. Loc.

Rogers & Rogers No. 4 Sutherland, E½, Sur. 120. Sd. 2,895-2,900 ft.; rebldg. drk. 75. Sd. 2,550-57 ft.; drlg. plugs.

Loma Novia—Duval County

Bridwell Oil Co. No. 8-A Hubbard, Sur. 71. Set csg. on sd.; W.O.C.

Bridwell Oil Co. No. 10-C Hubbard, Sur. 73. Sd. 2,741-42 ft.; set csg. 2,741 ft.; comp.; est. 20 B.P.H.

Bridwell Oil Co. No. 2-D Hubbard, Sur. 73. Sd. 2,741-42 ft.; comp.; est. 20 B.P.H.

R. DeLange No. 12 B.C.C., Sur. 76. T.D. 2,711 ft.; comp.; no gauge.

Duval Oil Corp. No. 4 Ruiz, Sur. 118. R.U.

Hamil et al No. 14 Hubbard, Sur. 76. T.D. 2,670 ft.; comp.; 14 B.P.H.

Highland Oil Co. No. 6 W C. Hubbard, Sur. 75. Loc.

Highland Oil Co. No. 21 Hubbard, Sur. 72. Drlg. 2,300 ft.

Highland Oil Co. No. 24 Hubbard, Sur. 72. T.D. 2,767 ft.; comp.; 112 B.P.D.

Highland Oil Co. No. 31 Hubbard, Sur 72. Sd. 2,742-51 ft.; set csg.; W.O.C.

Humble O. & R. Co. No. 41 B. Hubbard, Sur. 72. T.D. 2,741 ft.; comp.; no gauge.

Humble O. & R. Co. No. 15 Ruiz, Sur. 552. Set csg. 2,745 ft.; W.O.C.

Humble O. & R. Co. No. 9-B Hubbard, Sur. 83. Set csg. 56 ft.; W.O.C.

Humble O. & R. Co. No. 9-C Welder, Sur. 554. M.I.M.

Kaffie Lbr. Co. No. 1 Knoll, Sur. 114. Drlg. 2,416 ft.

Magnolia Pet. Co. No. 44 Hahl, Sur. 67. Set csg. 2,708 ft.; comp.; 4,000,000 ft. gas; T.D. 2,720 ft.

Reynosa Oil Co. No. 6 B. Davison, Sur. 114. Comp.; pmpg. 50 B.P.D.; T.D. 2,-550 ft.

Shell Pet. Corp. No. 5 Bishop, 330 ft. E line, midway N and S lines tr., Sur. 59. Drlg. 1,960 ft.

Shell Pet. Corp. No. 10 Hubbard, Sur. 77. Drk.; M.I.M.

Shell Pet Corp. No. 29 Hubbard, 989 ft. E line, 1,086 ft. N line lease, Sur. 77. Sd. 2,735-61 ft.; comp.; 9.38 B.P.H.

Shell Pet. Corp. No. 8 Mendoza, Sur. 68. T.D. 2,776 ft.; comp.; no gauge.

Shell Pet. Corp. No. 10 Mendoza, Sur. 68. Set csg. 2,815 ft.; W.O.C.

Texas Co. No. 44 Wendt, Sur. 68. Drlg. 1,-810 ft.

Loma Vista—Duval County

Atlantic Oil Prod. Co. No. 1 J. F. Welder hrs., 330 ft. N and E lines, 160-ac. tr., Sur. 103. Loc.

Pan American Pet. Co. No. 1-H Welder, 330 ft. N and W lines, 160-ac. tr., Sur. 103. Drlg. 2,056 ft.

Shell Pet. Corp. No. 1-B Welder, 330 ft. S line, 2,590 ft. W line, Sur. 69. T.D. oil sd. 2,872 ft.; tstg.

Palangana—Duval County

Frank Gravis No. 3-A Scharlett, Sur. 255. Drlg. 1,546 ft.

Peters—Duval County

Highland Oil Co. No. 1 Peters, 330 ft. N line, 990 ft. W line, Sur. 117. Loc.

Mills Bennett Prod. Co. No. 5 Peters, 990 ft. S line, 330 ft. W line, sec. 178. Drlg. 1,950 ft.

Rio Bravo Oil Co. and Geo. Coates No. 2 Peters Sur. 398. Drlg. 1,021 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 6 D.C.R.C., 990 ft. N line, 330 ft. W line, Sur. 95. Sd. 1,942-59 ft.; comp. 150 B.P.D.; T.D. 1,959 ft.

Magnolia Pet. Co. No. 7 D.C.R.C., Sur. 95. Set surf. csg.; W.O.C.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 4-E Welder, Sur. 102. T.D. 2,430 ft.; comp.; 16 B.P.H. on ⅝-in. ck.

Atlantic Oil Prod. Co. No. 5-E Welder, Sur. 102. Drlg. 1,107 ft.

Blanco Oil Co. and Buchanan No. 13-A Welder, E1½, SW¼, Sur. 385. Sd. 2,180-91 ft.; comp.; 50 B.P.D.

S. B. Cloyes No. 1 Serna, 330 ft. N and E lines tr., Sur. 384. Oil sd. 2,485-98 ft., T.D.; I.P. 25 B.P.H.; ½-in. ck.; T.P. 650 lbs.

Cox & Hamon No. 1 Telford, NW¼, Sur. 386. Loc.

Darby Pet. Corp. No. 3-A Welder, Sur. 102. Sd. 2,655-72 ft.; dry gas; D.&A.

Darby Pet. Corp. No. 4-A Welder, Sur. 102. Drlg. 772 ft.

Humble O. & R. Co. No. 15-B Serna, Sur. 384. Sd. 3,659-65 ft.; tstd. mud; no pressure; no wtr.

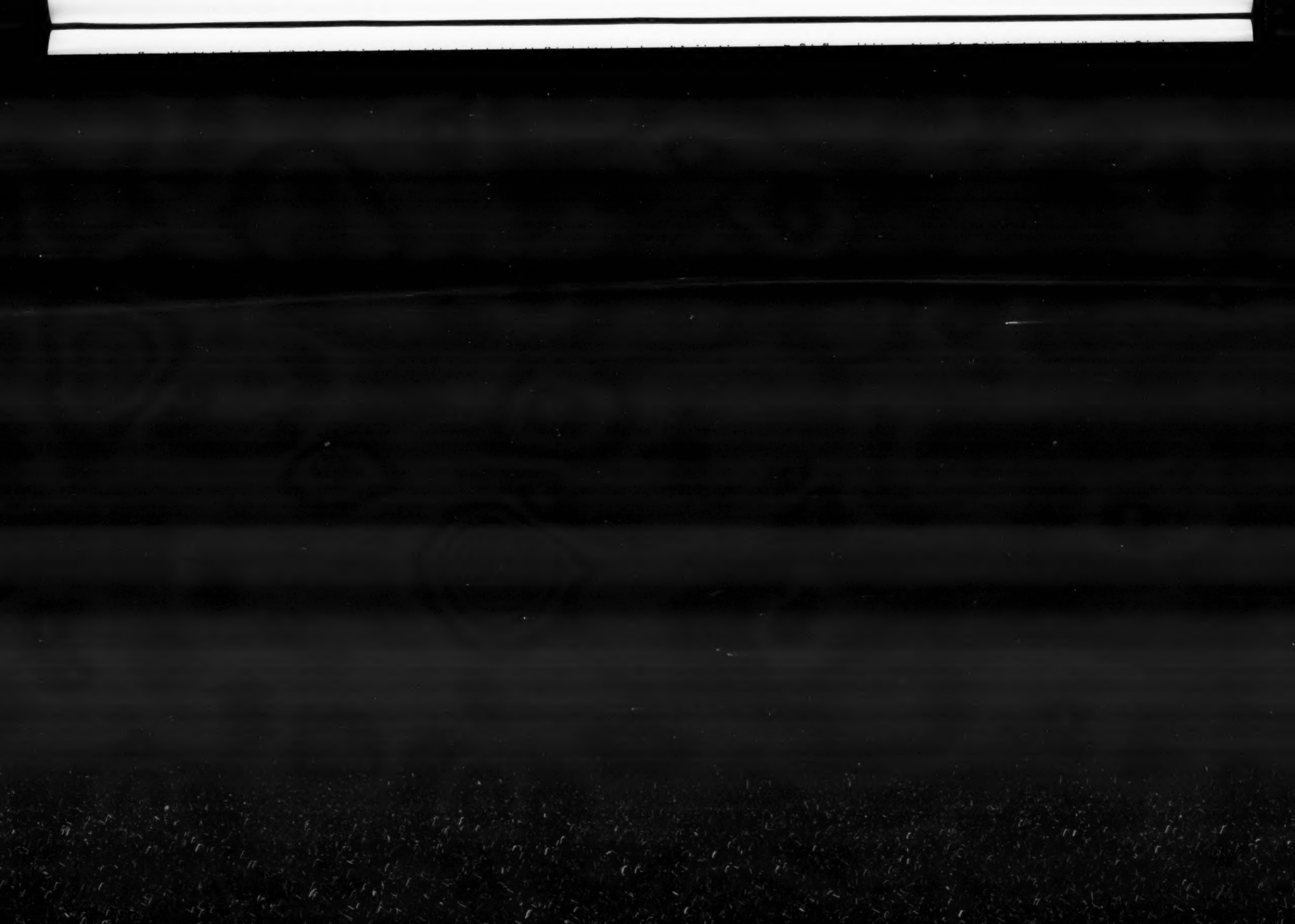
Humble O. & R. Co. No. 17 Smith, Sur. 382. Comp.; 16.55 B.P.H. on ⅝-in. ck.; T.D. 2,459 ft.

Humble O. & R. Co. No. 18 Smith, Sur. 382. Set surf. csg. 60 ft.; W.O.C.

Humble O. & R. Co. No. 19 Smith, Sur. 382. Set surf. csg. on sd. 2,465 ft.; rng. screen.

Illinois Pet. Co. No. 3 Hazelwood, 1,650 ft. E line, 330 ft. N line, Sur. 110. T.D. 2,498 ft.; D.&A.

Illinois Pet. Co. No. 5 Hazelwood, Sur. 110. Set surf. csg.; W.O.C.



Chas. Kleiner No. 1 Chernosky, Sur. 226. Sd. 2,693-2,708 ft.; swbg.

Ed Leach No. 1 Serna, 990 ft. N and E lines, NE¼ SE, Sur. 384, Drk.

Magnolia Pet. Co. No. 1 Neely, 330 ft. N line, 990 ft. W line, Sur. 220. Drlg. 2,-225 ft.

Mid-Continent Pet. Corp. No. 8 Serna, Sur. 384. Sd. 2,199½-2,208 ft.; comp. on pmp.; no gauge.

Mid-Continent Pet. Corp. No. 9 Serna, Sur. 384. Sd. 2,191-2,206 ft.; set csg. 2,189 ft.; swbg. in.

Navarro Oil Co. No. 1-B Welder, Sur. 383. Sd. 2,457-70 ft.; comp.; 365 B.P.D. on ½-in. ck.

Pan American Pet. Co. No. 4-C Welder, Sur. 383. T.D. 2,473 ft.; comp.; 20 B.P. H. on ⅜-in. ck.

Reliance Oil & Royalty Co. No. 7 Drummond, Sur. 308. M.I.M.

Texas Co. No. 2 Badgley, Sur. 307. M.I.M

Westheimer & Daube No. 12 Campos, Sur. 224. Sd. 2,663-90 ft.; comp.; est. 100 B. P.D. on ⅜-in. ck.; T.D. 2,699 ft.

Westheimer & Daube No. 14 Campos, Sur. 224. T.D. 2,708 ft.; tstg.

Westheimer & Daube No. 15 Campos, Sur. 224. R.U.

Pearsall—Frio County

Amerada Pet. Corp. No. 7 Halff & Oppenheimer, 1,320 ft. W line, 330 ft. S line, J. H. Gibson Sur. No. 16. T.D. 3,926 ft.; P.B. 3,877 ft.; stdg.

Amerada Pet. Corp. No. 2 Michael, 511 ft. N line, 466 ft. W line, A. Lynch Sur. 321. Set csg. on chalk 5,282 ft.; W.O.C.

Amerada Pet. Corp. No. 1 Miller, 466 ft. NE and SE lines tr., B. Saltillo Sur. Set csg. 5,431 ft.; W.O.C.

Amerada Pet. Corp. No. 3 Smith, 466 ft. E line, 905 ft. N line, J. B. Mason Sur. 322. Drlg. 5,229 ft.

Combs & Oakes No. 1 Arp, 330 ft. S and E lines, 102-ac. tr., S. Blair Sur. 297. Top chalk 5,507 ft. Saturation cored 5,-535-55 ft.; acidized and shot; cleaning hole; T.D. 5,921 ft.

North Pettus—Goliad County

Bostex Oil Co. No. 1 Lackey, 1,650 ft. NW line, J. Gomez Sur., 1,660 ft. SW of No. 3-A. Loc.

Jane Oil Co. No. 3-B Gillette, 810 ft. SE No. 2-B, cen. N and S lines, J. Gomez Sur. Sd. 3,665-71 ft.; set csg.; W.O.C.

Jane Oil Co. No. 7 Mudd, 453 ft. NE line. 430 ft. SE line lse., B.&B. Sur. R.U.

Magnolia Pet. Co. No. 2 Gillette, J. Gomez Sur. T.D. 3,678 ft.; R.U. to pmp.

Magnolia Pet. Co. No. 2 Porter, A. B. Meyers Sur. Drk.

Magnolia Pet. Co. No. 3 Welden & Sackey, J. Gomez Sur. Comp.; est. 20 B.P.H.; T.D. 3,718 ft.

Pettus O. & R. Co. No. 1 Hickle, 330 ft. N and W lines tr., J. Gomez Sur. Cg. 3,697 ft.

Walton—Guadalupe County

Louis Crouch No. 2 Getz, J. D. Clements Sur. T.D. 2,177 ft.; set csg. 2,172 ft.; comp.; 108 B.P.D.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1. Farm Tr. 2,309, Blk. 59. T.D. 7,597 ft.; recmtd. lnr. 7,595 ft.; no show; stdg.

Union Sulphur Co. No. 8 American Rio Grande L. & I. Co. 660 ft. N & E lines Tr. 2,120, Blk. 87. T.D. 7,560 ft.; set csg. 7,450 ft.; sdy. sh.; tstg.

Union Sulphur Co. No. 10 American Rio Grande L. & I. Co., Blk. 50, Tr. 2,418, N. Capriallo Dist. R.U.

Samfordyce—Hidalgo County

J. T. Barlow No. 1 Marta Flores de Chapa, Tr. 250, Porc. 39 (W.O.). Cored sd. 2,938-50 ft.; set 4-in. csg.; P.B. 2,500 ft.

Danvers & Harrison No. 1 Uvalde Vallalon, 230 ft. N line, 148 ft. E line, 6.32-ac. Tr., Tr. 252, Porc. 38. Sd. 2,939-53 ft.; tstd. 750 ft. oil in 10 min. at 2,940-57 ft.

Dean Bros. No. 2 Lula George, 450 ft. S line, 150 ft. W line, 10-ac. tr., Tract 13, Porc. 41. No report.

Bentonville—Jim Wells County

La Jita Corp. No. 1 Erck, 330 ft. N & E lines, N½ sec. 75. Set surf. csg. 550 ft.; W.O.C.

La Jita Corp. No. 1 Frame Bowers, 330 ft. N and E lines, sec. 14. Loc.

Lucey Pet. Co. No. 1 Coopwood, 330 ft. N and W lines, 221-ac. tr., sec. B. Loc.

Stanolind O. & G. Co. No. 1 Blundell, 330 ft. S and E lines, SW¼ sec. A. Abd. loc.

Stanolind O. & G. Co. No. 2 Blundell, 330 ft. N line, 330 ft. E line, NE¼, SW¼, sec. 16. R.U.

Stanolind O. & G. Co. No. 1 Frame & Bowers, 330 ft. S & E lines, sec. 14. D.S.T. 5,397-5,422 ft.; set csg. 5,398 ft.; drlg. in.

Stanolind O. & G. Co. No. 1 Hayden, 330 ft. N line, 339 ft. W line, sec. 19. Loc.

Stanolind O. & G. Co. No. 1 Thompson, 330 ft. N and W lines, NE¼ sec. 4. T.D. 5,685 ft.; P.B. 3,988 ft.; set csg. and rng. tbg.

Lucas—Live Oak County

Houston Oil Co. No. 35 Cartwright, 800 ft. NE R.R., 2,440 ft. NW No. 33. Drlg. sh. and L. 2,609 ft.

Calliham—McMullen County

Comet Oil Co. No. 1 Lark, 150 ft. S and W lines, Blk. H, Scrugham Sur. No report.

Loma Oil Co. No. 3-F Jacob, 660 ft. W of No. 1, Jacob Sur. Drlg. 712 ft.

Rhode—McMullen County

Humble O. & R. Co. No. 2 Rhode, 330 ft S and W lines, Sur. 17. Tstd. brackish wtr. 2,481-94 ft.; drlg. sh. 2,735 ft.

Agua Dulce—Nueces County

Parker, Foran & Knode No. 1 J. G. Ingram, sec. 9, Ross Peters Subd. No. 2. T.D. 4,768 ft.; set csg. 4,753 ft.; W.O.C.

Texon Royalty Co. No. 1 Elliff, 466 ft. E line, 2,194 ft. S line tr., Longorio grant. Cg. 5,227 ft.

Clara Driscoll—Nueces County

O. W. Killam No. 2 Ellich, 1,120 ft. N line, 330 ft. E line, 86-ac. tr., sec. 109. Drlg. 3,527 ft.

Santa Clara Oil Co. No. 3 Clara Driscoll, Sevier Sur., 697 ft. E line, 1,980 ft. S line, 500-ac. tr., sec. 109, Paul Subd. M.I.R.

Saxet Heights—Nueces County

Callaham Oil Co. No. 1 Best, 5-ac. tr., Ehlers Garden Trs. Sd. 4,086½-91 ft.; set csg. 4,091 ft.; drlg. plugs.

Capitol Oil Co. No. 1 Corpus Christi Ind. School Dist., Fairview School Survey. Set csg. 4,088 ft.; perf. 4,085-87 ft.; swbg.

W. W. Chapman No. 1 Reed, C Blk. 4, Country Club Pl. Spudded in.

Circle Oil Co. No. 2 Pete Whelan, 330 ft. N line, 225 ft. E and W lines, 53.7-ac. tr. T.D. 4,066 ft.; comp.; 120 B.P.D.

J. K. Culton No. 1 Tribble, 225 ft. S line, midway E and W lines, 17.54-ac. tr. Set csg. 4,094 ft.; perf. 4,076-90 ft.; comp.; 192 B.P.D. on 5/32-in. ck.

J. K. Culton No. 2 Tribble, 330 ft. N line, 250 ft. W line, 17.54-ac. tr. Spudding in.

Federal Oil Co. No. 1 C. R. Priour, cen. Blk. 15, Oak Park Addn. M.I.M.

General Drlg. Co. No. 1 Poth, C Blk. 6, Port View Addn. Set surf. csg.; W.O.C.

Gibralter Bldg. & Savings Assn. No. 1 fee, 90 ft. N line, 200 ft. E line, Lots 21 and 22, Country Club Pl. Drlg. 1,-617 ft.

Hamil & Smith No. 1 Johnson, 330 ft. S and E lines tr. R.U.

Marine Oil Co. No. 2 Geistman, 250 ft. NE line, 185 ft. NW line, 9.63-ac. tr. Sd. 4,068-81 ft.; comp.; 216 B.P.D. on 7/32-in. ck.

Morgan Bros., Inc., No. 1 Bender, cen. .75-ac. tr., Blk. D, Harbor View Addn. Cg. 4,042 ft.

Morgan Bros., Inc., No. 1 Dodson, cen. ½-ac. tr., Blk. 12, Bancroft Farm Lots. Drlg. 3,357 ft.

W. N. Paul No. 1 Shallert, Blk. "D," Harbor View Addn. Spd.; set sur. csg. 502 ft.; W.O.C.

Pedernal Oil Co. No. 1 Pondrom, Lot 11, Country Club Place. Sd. 4,072-84 ft.; comp.; no gauge.

Pedernal Oil Co. No. 1 Priour, C Blk. 15, Oak Park Addn. Set csg. reperf. 4,074-79 ft.

Port O. & G. Co. No. 5 Cohen, 45-ac. tr. Loc.

Port O. & G. Co. No. 3 Country Club Pl., C Lot 31, C.C. Pl. Addn. Drlg. 1,021 ft.

Port Oil & Gas Co. No. 2 Sherman, Lots 26 and 27, Country Club Place Addn. Drlg. plugs 4,091 ft.

J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Place. Drk.

Renwar Oil Corp. and Maryland Corp. No. 1 Golla, 19.3-ac. tr. Drlg. 3,042 ft.

Renwar Oil Corp. No. 1 Guaranty Title & Trust Co., Lot 9, Blk. 12, Villa Gardens. Perf. 4,084-86 ft.; S.D.

Richardson Pet. Co. No. 1 Burke, 200 ft. S line, midway E and W lines, 10-ac. tr. Set surf. csg. 500 ft.; W.O.C.

W. A. Richardson No. 2 Edwards, 10-ac. tr., Villareal Sur. Drk.

Richardson Petroleum Co. No. 1 Priour, Lot 1, Oak Park Addn. Sd. 4,068-97 ft.; comp.; no gauge.

Saxet Prod. Co. No. 2 Uehlinger, 303 ft. S line, 181 ft. E line, 10-ac. tr. Sd. 4,-073-82 ft.; comp.; est. 115 B.P.D.; jetting; T.D. 4,082 ft.

Taylor Ref. Co. No. 3 Corpus Christi Golf and Country Club 73-ac. tr. Drk.

Taylor Pet. Co. No. 2 Dunn, 330 ft. W line, 230 ft. S line, 53-ac. tr. Sd. 4,046-53 ft.; comp.; 172 B.P.D. on 3/16-in. ck.

Westgate Oil Co. No. 2 Sturm Est., 89-ac. tr. Set surf. csg. 500 ft.; W.O.C.

Westgate Oil Co. No. 4 Sturm Est., 83-ac. tr. Drlg. 2,774 ft.

Saxet—Nueces County

H. D. Carpenter No. 1 Harmon, 330 ft. S and E lines, 50-ac. tr., G. Frank Sur. 416. Set surf. csg. 100 ft.; W.O.C.

W. W. Chapman No. 2 Morgan, 660 ft. W No. 1 Morgan, 322-ac. tr., Sur. 405. Sd. 5,802-19 ft.; comp.; 202 B.P.D. on ⅛-in. ck.; T.P. 925 lbs.

W. W. Chapman No. 1 M. B. Humphrey, 330 ft. N & W lines, 20-ac. tr., J. W. Stevens Sur. 406. Comp.; 192 B.P.D. on 9/64 in. ck.; sd. 5,807-25 ft.; T.P. 1,-000 lbs.

Conroe Drlg. Co. No. 3 Bliss, 330 ft. N and W lines, 105-ac. tr., Stevens Sur. Drlg. 817 ft.

Conroe Drlg. Co. No. 5 Bliss, 330 ft. N line, 1,085 ft. W line, 105-ac. tr., Stevens Sur. Set csg. 930 ft.; W.O.C.

Conroe Drlg. Co. No. 1-A Rand Morgan, 990 ft. E line, 330 ft. N line, Sur. 403. Sd. 5,817-25 ft.; tstd. oil and S.W.; set csg.; fsg.

Conroe Drilling Co. No. 1-C Rand Morgan, 990 ft. E line, 330 ft. N line, lease, Sur. 403. T.D. 1,000 ft.; stdg.

Gilcrease Oil Co. No. 2 Sullivan, 330 ft. N line, 990 ft. E line, 140.13-ac. tr., Gallagher Sur. Spudding in.

Tom Graham No. 1 Harmon, 330 ft. N and E lines, 34-ac. tr., Sur. 416. Set surf. csg. 1,250 ft.; W.O.C.

W. B. Hinton No. 2 Cole, 990 ft. E line, 330 ft. S line, 60-ac. tr. Skidding on.

Houston Oil Co. No. 1-A fee, 330 ft. S and E lines of tr. Digging pits; drk.

North Star Oil Co. No. 2 Humphrey, 990 ft. N and W lines, 109-ac. tr., Stevens Sur. 406. Sd. 5,818-26 ft.; comp.; 200 B.P.D. on ⅛-in. ck.

North Star Oil Co. No. 3 Rand Morgan, 330 ft. E line, 1,650 ft. S line, W½, SE¼, sec. 405. Set surf. csg.; W.O.C.

North Star Oil Co. No. 4 Rand Morgan, 330 ft. N and E lines lease, Sur. 405. Sd. 5,789-5,833 ft.; set csg. 5,833 ft.; W.O.C.

North Star Oil Co. No. 8 Rand Morgan 330 ft. S and W lines lease, Sur. 405. M.I.M.

Fan American Pet. Co. No. 1-C Morgan, 330 ft. S and E lines, 160-ac. tr., B.S. &F. Sur. 405. Sd. 5,805-29 ft.; rng. Schlumberger test.

Southern Minerals Corp. No. 8 Bliss, 120-ac. tr., J. W. Stevens Sur. 406, Bldg. drk.

Southern Minerals Corp. No. 3 Mastin, 990 ft. S line, 330 ft. E line, 125-ac. tr., G. Frank Sur. 416. Skdg. on.

A. F. Holliday No. 4 Griffith, 330 ft. N line, 1,047 ft. W No. 3, Franks Sur. 416. Sd. 5,822-35 ft.; comp. 250 B.P.D. on 5/32-in. ck.

Houston Oil Co. No. 3 Harrell, Blk. 19, Sheppard Farm Lots. Set csg. 962 ft.; W.O.C.

Houston Oil Co. No. 4 Harrell, Blk. 19, Sheppard Farm Lots. Set 7-in. csg. 4,-554 ft.; sd. 4,543-50 ft.; completing.

Houston Oil Co. No. 1 McGregor, 800 ft. N line, 1,450 ft. W line, Sur. 311. (Workover). Sd. 5,813-35 ft.; comp.; gasser, spraying oil; T.P. 2,050 lbs.

Houston Oil Co. No. 12 Morgan, 330 ft. S and W lines lse., sec. 7, Rge. 5. Loc.

Frank Jones No. 1 Carson, 330 ft. N line, 800 ft. E line, Sur. 500 (old Viola No. 1) workover. T.D. 4,902 ft.; cd. sd. 5,827-30 ft.; T.D. 5,843 ft.; wtr. sd.; S.D. orders.

Mills Bennett Prod. Co. No. 1 Ordner, 330 ft. S and E lines, 210-ac. tr., Sur. 410. T.D. 5,521 ft.; P.B.; sd. 4,092-4,100 ft.; tstd. mud and S.W. at 4,084-88 ft.; recmtd. to reperf.; W.O.C.

North Star Oil Co. & Morgan Gulf Oil Co. No. 1-G Rand Morgan, 330 ft. N line, 250 ft. E line, Sur. 403. Drlg. 5,021 ft.

North Star Oil Co. No. 2-G Rand Morgan, 910 ft. E line, 330 ft. N line, B.S. &F. Sur. 403. Sd. 5,803-21 ft.; set csg. 5,805 ft.; W.O.C.

W. A. Richardson No. 1 W. S. Hutchins (workover), 330 ft. S and E lines, 80-ac. tr., Sh. 2, Frank Sur. 416 Sd. 5,881-98 ft. Tested s. w. W.O. orders.

Richardson Petroleum Co. No. 4 Perkins & LaGasse, 330 ft. W lines, 296 ft. N line, Blk. 26, Sheppard Farm Lots. Sur. 406. Perfd. csg. 5,164-68 ft.; compdg.

Richardson Petroleum Co. No. 3 Quiros, 660 ft. E of No. 2. Cg. 4,093 ft.

Sinclair Prairie Oil Co. No. 2 Isensee, 330 ft. S and E lines, 80-ac. tr., C. Land Sur. 404. Sd. 4,960 ft.; tstd. gas; drlg. 5,877 ft.

Southern Minerals Corp. No. 5 Bliss, S offset Conroe No. 1 Bliss. Sd. 5,814-30 ft.; comp.; 129 B.P.D.; T.D. 5,830 ft.; T.P. 1,100 lbs.; C.P. 1,125 lbs.

Southern Minerals Corp. No. 7 Bliss, 330 ft. S and W lines tr., Stevens Sur. 81. 5,768-5,825 ft.; tstd. oil; set csg.; W.O.C.

Southern Minerals Corp. No. 5 Isensee, 330 ft. N and W lines tr., Sur. 404. Sd. 5,-506-12 ft.; tstd. S.W. and oil.

Southern Minerals Corp. No. 7 Smith, 330 ft. S and E lines, 120-ac. tr., Blk. 4, Sheppard Farm Lots. Set csg. 4,417 ft.; drlg. plugs; T.D. 4,430 ft.

Texon Drilling Co. No 2 Isensee, 150 ft. N line, 112 ft. W line, 13.44-ac. tr., C. Land Sur. 404. Spudded.

Texon Drlg. Co. No. 2 Lingnau, 150 ft. N line, 112 ft. W line, 13.44-ac. tr., C. Land Sur. Sd. 4,422-37 ft.; comp.; 185.6 B.P.D. on 3/16-in. ck.; C.P. 1,350 lbs.

Texon Drlg. Co. No. 1 Scoggins, 125 ft. N line, 330 ft. W line lse., C.G.&S.F. Sur. 315. T.D. 4,426 ft.; set csg. 4,409 ft.; comp.; 96 B.P.D.

Violet Oil Co. No. 1 McGregor, 330 ft. N line, 367 ft. W line tr., Sur. 311. R.U.

W. A. R. Oil Co. No. 1 Hutchins, 89-ac. tr., Sh. 2, Frank Sur. 416 (old Capps No. 1. workover). Sd. 5,881-98 ft., s.w. S.D. W.O. orders.

Warner Quinlan Co. No. 4 Isensee, Blk. 1, Sheppard Farm Lots. Sd. 4,396-4,412 ft.; S.G.; cg. deeper.

Wynne Drlg. Co. No. 1 Rand Morgan, 1,650 ft. N line, 330 ft. W line, 235.5-ac. tr., Sur. 315. Sd. 4,425-37 ft.; tstd. S.W.; S.D.

Plymouth—San Patricio County

Centennial Oil Co. No. 1 State of Texas, Tr. 2, 1,350 ft. E line, 7,410 ft. S line, sec. 71. Set csg. 5,612 ft.; comp.; no gauge.

Centennial Oil Co. No. 1 State of Texas, Tr. 3. M.I.M.

Centennial Oil Co. No. 2 State of Texas, Tract 3, 640 ft. S and 46 deg., 51 min. E of Plymouth O. Co. No. 23-C Welder. Drlg. 5,629 ft.

Magnolia Pet. Co. No. 8 Corpus Christi Bank, sec. 24. M.I.M.

Plymouth Oil Co. No. 52-C Welder, 280 ft. N line, 1,188 ft. W line, sec. 49. Sd. 5,-495-5,504 ft.; comp.; 257 B.P.D. on 9/64-in. ck.; T.D. 5,504 ft.

Plymouth Oil Co. No. 53-C Welder, 460 ft. S line, 2,236 ft. E line, sec. 71. Drlg. 5,126 ft.

Plymouth Oil Co. No. 54-C Welder, 462 ft. S line, 1,095 ft. E line, sec. 71. Drlg. 3,562 ft.

Plymouth Oil Co. No. 55-C Welder, 465 ft. S line, 435 ft. W line, sec. 71. Set surf. csg. 346 ft.; W.O.C.

Plymouth Oil Co. No. 56-C Welder, 466 ft. S and W lines, sec. 49. R.U.

Sun Oil Co. No. 3 Edgar, 466 ft. E line, 446 ft. N line lse., Blk. 1, sec. 34. Sd. 5,619-28 ft.; comp.; 216.4 B.P.D. on 5/32-in. ck.

Sun Oil Co. No. 1 Rosen, 466 ft. N line, 315 ft. W line tr., E½ W½ sec. 35, J. Fessenden Sur. Drlg. 5,521 ft.

Sun Oil Co. No. 1 Rountree, 466 ft. N and E lines lse., Blk. 34, Taft Farm Lots. M.I.R.

Taft Field—San Patricio County

Cage Prod. Co. No. 1 Mayo, Ottman Sur. M.I.M.

Conroe Drlg. Co. No. 1 Pullin, 150 ft. N and E lines, 40-ac. tr., Lot 4, sec. 1. Set surf. csg. 450 ft.; W.O.C.

Humble O. & R. Co. No. 4 Mayo, Tabor Sur. Set csg. on sd. 3,978 ft.; W.O.C.

Guerra—Starr County

Sun Oil Co. No. 11-A Guerra, 3,077 ft. SE line, 3,860 ft. SW line, Sh. H-14-B, Las Cuevitas Gr. Sd. 2,280-87 ft.; comp.; 168 B.P.D. on ¼-in. ck.

Rio Grande City—Starr County

Sioux Oil Corp. No. 3 Frank Doyno, 150 ft. N and W lines, Blk. 3, Tr. 77-A. Porc. 81. M.I.M.

Fech Oil Co. No. 10 Frank Doyno, Blk. 4, Tr. 77-A, Porc. 81. Set csg. 1,453 ft.; comp.; 30 B.P.D.

Fech Oil Co. No. 1-B Frank Doyno, 150 ft. S and E lines, Blk. 2, Tr. 77-A, Porc. 81. Drlg. 1,072 ft.

Samfordyce—Starr County

Henshaw Bros. No. 1 Guerra, Tr. 254, Por. 39. R.U. and S.D.

Henshaw Bros. No. 1 Yturria Land & Livestock Co., E½ Porc. 100. Perf. 2,-577-79 ft.; S.D.

Porter & Pickens No. 3-B Garcia Land & Cattle Co., 150 ft. S and E lines, N½ tr., W½ Porc. 100. R.U.

Skelly Oil Co. No. 10 Seabury, Tr. 256, Porc. 38. T.D. 70 ft.; S.D.

Sun Oil Co. No. 1 Garcia Land & Cattle Co., 330 ft. S and W lines, 200-ac. tr., W½, Porc. 100. Sd. 2,789-99 ft.; D.&A. 2,800 ft.

Lopez—Webb-Duval Counties

Gem Oil Co. No. 1 Peal, Sur. 72. Sd. 2,103-13 ft.; D.S.T. 130 ft. oil in 11 min.; W.P. 75 lbs.; set csg.; W.O.C.

C. H. Lewis No. 7 Lopez, 330 ft. W line, 990 ft. N line, sec. 110. Drlg. 1,572 ft.

Magnolia Pet. Co. No. 3 Peal, 660 ft. S No. 1, Sur. 72. Sd. 2,126-34 ft.; set csg.; W.O.C.

Mills Bennett Prod. Co. No. 2 Josepha Valadez, 990 ft. W line, 330 ft. S line, lse., sec. 73. Spudded in.

Mortimer & Springer No. 2 F. L. Garcia, Sur. 112. Sd. 2,212-40 ft.; comp.; 15 B. P.H. on ½-in. ck.

Mortimer & Springer No. 3-A Garcia, 801 ft. N line, 980 ft. W line, Sur. 112. Set csg. on sd. 2,219-45 ft.

Mortimer & Springer No. 2 Jesus Lopez, 330 ft. N line, 990 ft. W line, Sh. 10-B, Sur. 73. Sd. 2,153-71 ft.; comp. 20 B.P.H.

Mortimer & Springer No. 4 Jesus Lopez, 330 ft. S line, 990 ft. W line, E½, Sh. 10-B, Sur. 73. M.I.M.

Mortimer & Springer No. 1 Peal, Sur. 72. Location.

Starr Dev. Co. No. 1 Peal, Sur. 796. Oil sd. 2,140-45 ft.; set csg.; drlg. plugs.

Superior Oil Co. No. 12 W. C. Billings, 1,-650 ft. N line, 330 ft. E line, sec. 109. Set csg. on sd. 2,243-46 ft.; W.O.C.

Superior Oil Co. No. 13 W. C. Billings, 2,-310 ft. N line, 990 ft. E line, Sur. 109. Loc.

O'Hern—Webb County

Magnolia Pet. Co. No. 10 Servando Benavides, Blk. 6. Comp.; 10 B.P.H. on 5/16-in. ck.; T.P. 80 lbs.; T.D. 2,845 ft.

Magnolia Pet. Co. No. 11 S. Benavides, Hale Subd. Set surf. csg.; W.O.C.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.

Escobas—Zapata County

Texas Co. No. 91 Whitehead, 629 ft. NE of No. 79, 629 ft. SE of No. 81, Cerrito Blanco Gr. T.D. 1,280 ft.; comp.; 20 B. P.D.; P.B. 1,215 ft.

Haynes—Zapata County

Geo. Buck No. 2 Haynes, Blk. 4, Haynes Subd., Villa & Comitas gr. M.I.M.

Geo. Buck No. 5 Haynes, Blk. 4, Haynes Subd. Tstg. sd. 915 ft.

Clover O. & G. Co. No. 17 Haynes, 200-ac. tr., Blk. 7. Set csg. 1,030 ft.; W.O.C.

McKay & Upchurch No. 5 Haynes, Blk. 7, Haynes Subd., Villa & Comitas gr. Sd. 924-37 ft.; comp.; 55 B.P.D.; T.D. 939 ft.

McKay & Upchurch No. 6 Haynes, Blk. 7. Cg. sd. 927 ft.

E. C. TEXAS WILDCATS

Anderson County

Gulf Oil Corp. No. 1 Ross, Robt. Irwin Sur. Elev. 487 ft.; T.D. 6,674 ft.; moving in heavy rig.

Angelina County

W. A. Stone et al 1 Southern Pine Lbr. Co., B. J. Thompson Sur., 8 mi. SE Lufkin; R.U.

Falls County

E. L. Chapman et al No. 1 Grocholski, top Austin 2,860 ft.; drlg. 3,067 ft.

Fannin County

Styles & Smith No. 1 R. Stewman, 150 ft. from S and 300 ft. from W line of J. W.

Clark Sur., 2 mi. SE Trenton. Spud. and S.D.

Franklin County

E. Bateman et al No. 1-E Phillips, Wm. Birdwell Sur., 4 mi. SW Talco. T.D. 4,361 ft.; P.B. 4,343 ft.; top sd. 4,287 ft.; fsg.

Flannery et al No. 1 Hedrick. Fsg. 4,341 ft.

J. DeGrazer et al No. 1 F. N. Bates, F. M. Bates Sur. Top Georgetown 3,504 ft.; drlg. 3,977 ft.

Virginia Hudson et al No. 1 B. M. Patterson, 150 ft. from N and E of S 31 ac., E. Rice Sur., 3½ mi. SW of Hagersport. Drk.

Stroube & Stroube No. 1 B. Norman, 330 ft. N and E of E½ of 255.53-ac. tract, M.E.P.&P. Sur. Drk.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 6 miles NW of Denison. Elev. 767 ft.; set whipstock 901 ft.; T.D. 5,980 ft.; S.D. 5,320 ft.

Henderson County

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. R.U.

Taubert & McKee et al No. 1 R. W. Fair, 330 ft. from N and E of 100-ac. tract in J. M. Arnest Sur., 5 mi. SW of Chandler. Loc.

Hopkins County

D. Hager et al No. 1 J. Worshorn, A. Whitmore Sur., Pecan Gap 1,187-1,208 ft.; top Woodbine 3,040 ft.; top Georgetown 3,600 ft.; top sand 4,467 ft.; swabbing and testing; making oil similar to Talco crude.

Kaufman County

Lester & Duffield No. 1 D. C. Baron, J. T. Taylor Sur., 8 mi. NE of Elmo. Top Austin 2,223 ft.; S.D. 4,360 ft.

Lamar County

Abercrombie & Harrison No. 1 C. M. Terrell, 4½ mi. SE of Paris. Material.

Limestone County

C. L. Lytle No. 1 J. L. Thompson, P. Varella Sur., Mexia field. T.D. 6,054 ft.; P.B. 5,580 ft.; S.D.; swbd. S.W. and little gas.

Red River County

Abercrombie-Harrison No. 1 Temple Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarksville. Top sd. 2,104 ft.; top Paluxy 1,057-59 ft.; fsg. 2,294 ft.

Williams et al No. 1 L. and O. Roberts, James Bankston Sur., 2 miles NE of Annona. Elev. 396 ft.; S.D. 725 ft.

Rusk County

D'Arman et al No. 1 R. E. Talliferro, T. L. Wilkshire, 5 mi. W of Henderson, S.D. 3,590 ft.; completed.

Pure Oil Co. No. 1 W. H. Faulkner, Wm. Elliott Sur., S of Concord. Elev. 563 ft.; coring 7,550 ft.

Titus County

B. G. Byers et al No. 1 L. Blackburn, 150 ft. from N and 287 ft. from W of 16.5-ac. tract, J. W. McCullough Sur. Drk.

Magnolia Pet. Co. No. 1 L. Blackburn, Benj. Jones Sur., 2½ mi. E of Talco. Top sand 4,178 ft.; S.D. 4,183 ft.

Nivia Oil Co. No. 1 J. N. Kelley, J. Holman Sur. T.D. 4,360 ft.; comp.

EAST TEXAS

(Border Counties)

Bowie County

Fay T. Chew et al No. 1 Barkman, John Parkman Sur. Sur. pipe set; W.O.C.S.

Ferguson & Hill No. 1 A. Y. Breckenridge, N. Dycas Sur. 10-in. set 60 ft.; W.O.C.S.

Westmount Oil Co. No. 1 R. N. Phillips, G. N. Hancock Sur., 10 mi. N of Oak Grove. Base Georgetown 1,924 ft.; top Paluxy 1,924 ft.

Cass County

American Liberty Oil Co. No. 4 Maxie, John Collum Sur. Comp.; flw. 40 B.P. H.; ½-in. tbg. ck.; T.D. 6,006 ft.; 5-in. 5,972 ft.

American Liberty Oil Co. No. 1 G. Stephens, 330 ft. N and 1,020 ft. E, SW cor. J. Garsner Sur. Drlg. 2,410 ft.

W. P. Lacy et al No. 1 Baugus. J. H. Rives Sur. 16-in. 258 ft.; drlg. 5,960 ft.

Lide, Greer & Brown No. 1 Baugus, 150 ft. N and E. from NE cor. Lot 12 in J. H. Rives Sur. Drlg. 931 ft.

Marathon Oil Co. No. 1 R. P. Willis, S.F. I.W. Sur. Cg. 5,950 ft.

R. W. Norton No. 1 W. M. Hall, 330 ft. S and 697 ft. W. NE cor. 100 acs., W. Robinson Sur. No. 907. 6-in. cmt. 6,051 ft.; W.O.C.S.

R. W. Norton No. 2 A. S. Hall, NE cor. A. S. Hall tr., James Young Sur. 9-in. cmt. 2,094 ft.; W.O.C.S.

R. W. Norton No. 3 A. S. Hall, NW cor. E. E. Hill 60-ac., John Collom Sur. Drlg. 1,700 ft.

R. W. Norton No. 3 Haywood, on Priscilla Evans Sur. Drlg. 5,945 ft.

R. W. Norton No. 2 Mary Rives, John Collom Sur. Cg. 6,003 ft.

Magnolia Pet. Co. No. 1 J. E. George Est., J. Collom Sur., SE cor. E. E. Hall 60-ac. tr. Loc.

Magnolia Pet. Co. No. 4 A. S. Hall, J. Collom Sur., 544 ft. S of N line, 1,250 ft. E of W line, E. E. Hall tr. Loc.

Magnolia Pet. Co. No. 5 A. S. Hall, J. Collom Sur., 532 ft. S of N line and 440 ft. W of E line of E. E. Hall 60-ac. tr. Loc.

Magnolia Pet. Co. No. 1 J. J. Moore, J. Collom Sur., 330 ft. N, 418 ft. W, SE cor. of 118-ac. tr. Loc.

Showers & Moncrief No. 5 T.H. and Sallie Stallcup, Robt. Trammell Sur. Drlg. 100 ft.

Showers & Moncrief No. 7 T. H. and Sallie Stallcup, 1,714 ft. S, 167 ft. W, NE cor. 62-ac. tr., Robt. Trammel Sur. Drk.

Showers & Moncrief Co. No. 1 Stallcup, J. Davenport Sur. 7-in. cmt. 5,977 ft.; T.D. 6,006 ft.; W.O.C.S.

Superior Oil Co. No. 1 Susie Chatten, SE cor. H. Holbert Sur., in Wm. R. Myers Sur. Drlg. 1,508 ft.

Superior Oil Co. No. 1-A Chew, SW cor. Robt. Trammell Sur. Drlg. 325 ft.

Superior Oil Co. of Calif. No. 2 Stallcup, Robt. Trammel Sur. Drlg. 3,935 ft.

United Prod. Corp. No. 2 E. J. Cunningham, on Wilson Robinson Sur. 7-in. cmt. 6,090 ft.; W.O.C.S.

United Prod. Corp. No. 2 E. Tyson Unit, J. H. Rives Sur. 7-in. cmt. 6,010 ft.; tstg.

United Gas Pub. Ser. Co. No. 2 F. S. Simpson, 2,091 ft. E and 334 ft. N, SW cor. of 160 ac., James Young Sur. Comp.; flw. 21 B.P.H.; ½-in. tbg. ck.; T.D. 6,049 ft.

United Prod. Corp. No. 3 F. S. Simpson, 557 ft. N, 440 ft. W, SE cor. 160-ac. tr., James Young Sur. Loc.

United Prod. Corp. No. 2 J. T. Stewart, J. Collom Sur., 529 ft. N, 440 ft. E, SW cor. J. T. Stewart tr. Loc.

United Prod. Corp. No. 3 J. T. Stewart, J. Collom Sur., 544 ft. N and 1,250 ft. E, SW cor. J. T. Stewart tr. Loc.

United Prod. Corp. No. 4 J. T. Stewart, J. Collom Sur., 532 ft. N, 2,060 ft. E, SW cor. 61-ac. tr. Loc.

United Prod. Corp. No. 5 J. T. Stewart, J. Collom Sur., 536 ft. N, 615 ft. E, SW cor. Mack and J. H. Stewart tr. Loc.

Harrison County

W. F. Bridewell et al No. 1 Clapp, F. C. Baker Sur. T.D. 2,412 ft.; acid 2,000 gals.; swbd. S.W. only; S.D.O.; may D.D.

Geyer Oil Co. No. 4 Vincent, Chas. Davenport Sur. R.U.

Panola County

Gulf Oil Corp. No. 1 Pierce & Chesbro, J. H. Shahan Sur. Loc.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. Drlg. 2,635 ft.

Sabine County

L. D. House et al No. 1 Bell, McDonnell Sur. Cg. 2,032 ft.; sd.

Shelby County

Farley & Sommer No. 1 Greer, J. English Sur. Skidded old rig 50 ft. west; drlg. 3,100 ft. in sh.

H. A. Stebbinger et al No. 1 Pickering Lbr. Co., C. E. Henry Sur. Drlg. 4,676 ft.

F. E. Mulroy et al No. 1 C. A. Hayden, in the D.T.F. York Sur. Drk.

NORTH TEXAS WILDCATS

Archer County

Bonner Co. No. 1 W. E. Norton, J. W. Snell A-386. M.I.M.

L. T. Burns No. 1 M. E. Durham, J. W. Harris Sur., sec. 52. Loc.

Bob Elmore No. 1 O. L. Kunkel, T.E.&L. Sur., sec. 2,419. Drlg. 276 ft.

G. E. Grininger No. 1 J. J. Perkins, J. Poitevent Sur. A-247. Drlg. 1,515 ft.

Kemp & Waggoner No. 1 Wilson, Blk. 75, A.T.N.C.L. Cem. 6⅝-in csg. 2,190 ft.; sd. 2,205-20 ft.; C.O. and testing.

J. T. Miller No. 1 Rogers, T.E.&L. 2,407. Drlg. 1,520 ft.

W. B. Omohundro et al No. 1 H. Osterman, Clark & Plumb Subd. Drlg. 900 ft.

Clay County

Carl Purcel No. 3 Stine "D," sec. 7, P.C. S.L. Sur. Drlg. 100 ft.

Cooke County

Anderson & Kerr No. 1 L. K. Bell, T. E. Hardeway Sur. A-464. Drlg. 1,200 ft.

J. G. Beard et al No. 1 R. S. Rose, T. E. Hardeway A-464. Testing est. 1,000 bbls. per day.

Benton & Holmes No. 1 T. Hildebrand, B. B. Lee Sur. A-614. Drlg. 1,810 ft.

Burke Roy. Co. et al No. 1 Nickle et al, H. Strong Sur. A-930. Drlg. 1,400 ft.

Cain & Chandler No. 1 J. B. Burch, J. M. Williams Sur. A-658. Drlg. 1,860 ft.

Hill Christian No. 1 J. T. Donald, J. Guffey Sur. A-1,545. 6⅝-in. 2,655 ft.; sd. 2,655-72 ft.; sd. 2,890-2,900 ft.; bailing oil and wtr.

Fain-McGaha No. 1 J. W. Mount, sec. 9, S.P.R.R. S.D. 1,737 ft.

Homarado Oil Co. No. 1 H. D. Field, J. B. McClyman A-735. 6⅝-in. 1,216 ft. W.O.C.

W. M. Johnson No. 1 G. M. Smith, J. Boyle A-88. S.D. 275 ft.

Joseph Oil Co. No. 1 Wm. Bergman, John Barnett A-12. Drlg. 1,810 ft.

Lanier et al No. 1 Norman, J. Bush Sur. A-107. Drk.

A. N. Landes No. 1 Mrs. O. Wilson, E. Reed Sur. A-849. S.D.O.

Midfield Oil Co. No. 1 McClellan, C. F. Stanley Sur. A-407. Drlg. 750 ft.

Mills & Carey No. 1 Bezner, J. B. Trenary A-1,043. S.D.O.

Mullins & Weil No. 1 Rose T. Hardeway A-464. Set 21 ft. 10-in. and W.O.C.

Nair Oil Corp. No. 1 England, J. C. McElroy A-711. S.D. to standardize.

Newsom Bros. No. 1 J. W. Mount, J. L. Walters Sur. A-1,155. Drlg. 1,113 ft.

E. R. Robison No. 1 J. Kreba, H. Wilkey Sur. A-1,090. T.D. 1,350 ft.; C.O.

Ungerman et al No. 1 W. Reid, F. Earthman Sur. A-349. Drlg. 1,450 ft.

Wertheimer et al No. 1 W. A. Erwin, J. Armendaris Sur. A-1,234. Drlg. 440 ft.

Whitehead et al No. 1 Lynch, A. Edmiston Sur. A-353. Loc.

Denton County

C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238. S.D. 1,860 ft.

Manning & Moore No. 1 E. L. Darnell, I. Walters Sur. A-1,329. Drlg. 2,270 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec 16, Blk. X, S.P.R.R. Sur. T.D. 3,660 ft.; S.D.O.

Jack County

J. W. Campbell No. 1 W. J. Cannon, E P. Costen Sur. A-1,825. Drlg. 830 ft.

T. J. Deskins No. 1 Jones, H. Stutter, A-1,269. Loc.

S. B. Edwards No. 1 Bryson, J. Hughson Sur. A-256. Drlg. 2,410 ft.

W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. Drlg. 1,100 ft.

W. H. Hammon No. 1 Kuykendall, B.S.&F A-1,720. Drlg. 2,777 ft.

C. Kadane No. 1 E. F. Smith, S.P.R.R. Sur. A-522. Drlg. 2,004 ft.

States Oil Corp. No. 1 J. Lowe, J. Hughson A-256. C.O.; T.D. 2,886 ft.

Sternteax Oil Co. No. 1 Boyd, J. N. Wright Sur. A-898. S.S.O. 3,370-82 ft.; S.D.O.

Montague County

Bowden et al No. 1 Buck Est., D. F. Mallard A-925. S.D. 200 ft.

Grisso Royalty Co. No. 1 Jordon, T. R Jackson Sur. A-394. Drlg. 3,695 ft.

Jim Seeds et al No. 1 Coombs, sec. 55, M.E.P.&P. Sur. S.D.O. 2,340 ft.

Sinclair Prairie Oil Co. No. 1 Holt Est., Blk. 45, K.C.S.L. Drlg. 1,850 ft.

R. Franklin Smith No. 1 Cora Hurd, E. Ballinger Sur. Drlg. 1,750 ft.

Wichita County

Clark et al No. 1 C. T. Marshall, J. Cole A-838. Drlg. 1,910 ft.

W. F. Hamilton No. 1 W. T. Waggoner, S. Holloway Sur. A-533. U.R. 10-in. 1,040 ft.

Pete Harmon et al No. 1 J. B. Jamison J. Deck Sur. A-52. Drlg. 1,750 ft.

Melat & Graham No. 1 Munger, Blk. 25, K.W.V.F.V. Sur. Drk.

J. M. Morton No. 1 Housler, J. C. Pike, A-509. Drlg. 2,310 ft.

Pois & Schultz No. 1 Ed Foster, H.T.&B. Sur. A-129. Drlg. 1,630 ft.

J. M. Seaberry No. 1 Guggenheim, sec. 15 Cherokee Co. Sch. Lds. S.D. 700 ft.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller, et al, sec. 108, Blk. 14, H.&T.C. Sur. S.D. 1,570 ft.

King Oil Co. No. 1 Waggoner-P. J. Poitevent Sur. Drlg. 1,610 ft.

Smith No. 1 S. A. Dill et al, sec. 32, Blk 14, H.&T.C. Sur. S.D. 2,200 ft.

Webb & Rogers No. 1 Mrs. D. Coffee, sec. 44, H.&T.C., Blk. 15. Spudded.

Young County

S. Caprito No. 1 Mrs. N. Laquey, A. Irvin Sur. A-1,779. R.U.C.T.

Art Cox No. 1 J. T. Rogers, J. Ray D-1,628. Drlg. 300 ft.

W. D. Eastland No. 1 A. R. Manning, T.E &L. Sur. 3,412. Fsg. 1,625 ft.

Hinson Tidwell No. 1 Thompson G.L. 3,-770-76 ft.; 5-in. cmt. 3,776 ft.; T.D. 3,-940 ft.; shot with 150 qts.; C.O. bridge; 2,000 ft. O.I.H.

Pitzer West et al No. 1 W. R. Dollins, T.E. &L. Sur. 615. Drlg. 3,335 ft.

Rathke Oil Co. No. 1 O. W. Hill, J. C. Graham Sur. A-122. Drlg. 1,520 ft.

Rathke Oil Co. No. 2 J. T. Rogers, S. H. Graham Sur. A-124. T.D. 3,912 ft.; rng. 5 3/16-in.; flwg. 15 B.P.D.

Womack Oil Co. et al No. 1 W. A. Dennis, C. F. Bass Sur. T.D. 3,692 ft.; C.O

Yorktex Pet. Co. No. 1 F. G. Burnett, G W. Hills Sur. A-151. Drlg. 740 ft.

WEST TEXAS WILDCATS

Andrews County

Grisham Hunter Corp. No. 1 Ratliff & Bedford. T.D. 603 ft.; C.O.

Borden County

Moore Bros. No. 1 Clayton-Johnson, 990 ft. from S and 1,320 ft. from E, sec. 20, Blk. 32, Twp. 4n, T.&P. Sur. Loc.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. U.R. csg.; T.D. 2,316 ft.; fsg.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 E B. Duggan, cen. Labour 13, League 55 Oldham County Sch. Land. Drlg. 2,232 ft.

Concho County

J. W. Westbrook No. 1 Ledbetter. S.D. 3,010 ft.

Crane County

Big Basin Oil Corp. No. 1 Cowden. Drlg. 2,641 ft.

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. Drlg. 4,300 ft.

Gulf Oil Corp. No. 2 Tubbs, sec. 12, Blk. 27-B. Drlg. 4,002 ft.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 1,149 ft.

Loffland Bros. No. 2 Tubbs, sec. 9, B-27. Drlg. 2,477 ft.

Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. Drlg. 5,178 ft.

Rider et al No. 1 Thaxton, sec. 2, W. L Wilkenson Sur. Spudded and S.D.

Crockett County

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur. S.D. 1,255 ft.

Ector County

Empire G. & F. Co. No. 3 Cummins, 2,200 ft. from S and 440 ft. from E, sec. 22, Blk. 45, Twp. 1n, T.&P. Sur. Cellar.

Grisham-Hunter Corp. No. 1 R. B. Cowden, C of SE¼, sec. 10, Blk. 45, Twp. 2n. T.&P. Sur. Drlg. 3,032 ft.

Sinclair Prairie No. 1-A Johnson, sec. 42, Blk. 42, Twp. 1s, T.&P. Sur. Drk. and material.

Edwards County

M. I. Phillips & Miers No. 1 Turney, 330 ft. from N and W, sec. 164, C.C.S.D.& R.G.N.G. Sur. Drlg. 50 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless Fsg. 553 ft.

Ellis & Eubanks No. 1 C. C. Wourland, sec. 15, Blk. 21, T.&P. Sur. Drlg. 2,333 ft.

Forest Dev. Co. No. 1 A. M. Dry, sec. 108, Blk. 2, H.&T.C. Sur. T.D. 3,829 ft.; U.R. csg.

Gaines County

Humble O. & R. Co. No. 1 W. Eubanks, sec. 6, Blk. AX. Top anhydrite 1,790 ft.; top salt 1,824 ft.; drlg. 4,236 ft.

Landreth Prod. Co. No. 1 Kirk, sec. 33, A-21. T.D. 4,820 ft.; shut in 2 weeks; flowed 155 bbls. when opened.

Garza County

Brown Eagle Oil Co. No. 1 Sullivan, sec. 3, S. C. Harper Sur., Blk. H. Top pay 2,772 ft.; T.D. 2,790 ft.; testing.

M. L. Richards No. 1 U. U. Post est., sec. 1,232, D. L. Phillips Sur. S.D. 2,560 ft.

Glasscock County

F. Dodson et al No. 1 Carter heirs, sec. 8, Blk. 33, Twp. 3s, T.&P. Sur. Drlg. 131 ft.

Hockley County

Texas Co. No. 1 B. Slaughter, 725 ft. from S and 665 ft. from W, Labour 83, League 38, Zavala Co. School Lands. Rotary.

Hudspeth County

Hayman Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P Sur. T.D. 1,131 ft.; cmtg. off water.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur. Drlg. 4,870 ft.

Jones County

Dobbs Oil Co. No. 1 McCreight, sec. 14, O.A.L. Sur. T.D. 1,540 ft.; set csg.

Owens-Snebold Oil Corp. No. 1 S. Gorman, sec. 5, Blk. 6, W. C. Walker Sur. T.D. 1,650 ft.; U.R. csg.

Owens-Snebold Oil Corp. No. 1 Jones, 600 ft. from S and 2,850 ft. from E line, McKissic Sur. No. 204. Drlg. 326 ft.

Oyster & Barnes No. 1 King, Scott Sur. No. 16, 1 mi. S of Lueders. Loc.

Parker No. 1 C. L. Brown, sec. 9, Blk. 2, T.&N.O. Sur. Drlg. 2,177 ft.

Kimble County

Wilcox O. & G. Co. No. 1 H. Spiller, sec. 15, Brooks & Burleson Sur., Abst. 80. Drlg. 436 ft.

Loving County

Evans No. 1 Johnson. Wtr. shut-off; T.D. 3,214 ft. Swabbing.

Pecos County

Dobbs Oil Co. No. 1 Rooney, sec. 12, Blk 125, T.&St.L. Sur. El. 3,005 ft.; S.D. 2,639 ft.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. Drlg. 1,550 ft.

Tex-Mex Oil Co. No. 1 McKee, Tr. 7, sec. 24, Blk. 9, H.&G.N. Sur. R.U.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 1,800 ft.

Presidio County

Lindeman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 361, G.C.&S.F. R.R. Co. Sur., 2½ mil. NE of Presidio. T.D. 1,660 ft.; C.O.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL, T.C.R.R. Sur. SW 4,865 ft.; S.D. 4,886 ft.; C.O.

Magnus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; S.G. 4,350 ft.; gas sd. 4,956-58 ft.; T.D. 6,527 ft.; P.B. to 5,912 ft.; to run tubing and test.

Taylor County

Illinois Pet. Co. No. 1 Mrs. G. A. Bigham, W¼ sec. 29, Guadalupe Co. School Lands Sur. Drlg. 1,009 ft.

A. R. Forrester No. 1 O. A. Prescher, sec. 14, Blk. 86, J. R. Shipman Sur. Drlg. 1,429 ft.

Terry County

J. A. Estes No. 1 F. B. Graham, sec. 23, Blk. T, O.&W.R.R. Spudded.

Uscan Oil Co. No. 1 Brownfield, C N¼ sec. 54, Blk. K, P.S.L. Sur. Loc.

Tom Green County

Spinner No. 1 Reed, Sub. 39, Mason & Perry Sur. S.D. 2,505 ft.

E. E. Webb No. 1 D. B. Horn, sec. 137, Washington Co. R.R. Sur. Spudded.

Upton County

P. Fox No. 1 Cordova Union, sec. 17, Blk. 1, M.K.&T. Sur. Drlg. 1,972 ft.

G. P. McCamey No. 1 Cordova Union, sec. 19, Blk. 1, M.K.&T. Sur. Drlg. 2,053 ft.

Perry & Breeding No. 1 Cordiva-Union, sec. 1, M. Huggins Sur. T.D. 2,295 ft.; P.B. 2,282 ft.; pumps off in 1½ hrs.

Ward County

P. Moran et al No. 1 Reynolds, sec. 12, Blk. 5, H.&T.C. Sur. S.D. 850 ft.

Winkler County

Bert Fields et al No. 1 Walton, 2,970 ft. from S and 330 ft. from W, sec. 3, Blk. C-23. Material.

Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Drlg. 4,873 ft.

Navarro Oil Co. No. 1 Drane, tr., sec. 35, Blk. 26, P.S.L. Sur. T.D. 3,107 ft.; shot; testing.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. Spudded.

Texas Co. No. 1 Holley, 330 ft. from S and W, sec. 7, Blk. B-11, P.S.L. Sur. Loc.

Yoakum County

Bahan et al No. 1 Henard, C SW ¼, sec. 367, Blk. D, J. H. Gibson Sur. El. 3,691 ft.; Yates 3,090 ft.; S.D. 4,672 ft.; to test water source.

Stogner et al No. 1 Roosevelt, sec. 215, Blk. D, John H. Gibson Sur. El. 3,712 ft.; top anhydrite 2,397 ft.; drlg. 3,279 ft.

Eight Tankers Ordered By Jersey Standard

NEW YORK, July 21.—The largest single, private shipbuilding order ever placed in the United States and a program that exceeds all similar work now under way in the country was launched last week by Standard Oil Co. of New Jersey in letting contracts for eight new tankers to cost about $13,000,000.

By signing the contracts in behalf of the Standard of New Jersey, Robert L. Hague, general manager of the marine department, accounted for more than 25 per cent of The Oil and Gas Journal's estimate of expenditures for 1936 by the marine and tankcar transportation branches of the oil industry. The record-breaking order for this country lodged by the Standard of New Jersey gave further indications that the Journal's estimate of $43,000,000 to be spent by the transportation branches this year is probably conservative.

Four of the tankers will be constructed by the Federal Shipbuilding & Dry Dock Co., at Kearny, N. J., each with deadweight of 12,800 tons. Specifications call for Isherwood Arcform design of the hulls.

The Bethlehem Shipbuilding Corp. will build two of the eight tankers at its Sparrows Point, Md., plant and each will have 13,000 tons deadweight. Fluting plating bulkheads, said to be an innovation in tanker construction, will feature the two boats, which will also embody Frear-Bethlehem type hulls.

The Sun Shipbuilding & Dry Dock Co., at Chester, Pa., was awarded contract for construction of two other tankers, each to have 12,900 tons deadweight. They will be patterned on the Isherwood Arcform hull design and Isherwood bracketless construction.

High-pressure steam turbines relaying energy through double-reduction gears will enable each tanker to operate at a sea speed of 12 knots. Boilers of the water-tube type will be used and supplied by Foster-Wheeler Corp. and the Babcock & Wilcox Co.

Delivery of the first of the eight tankers is tentatively scheduled for September, 1937. The construction program is calculated to provide 7,000,000 work hours in actual building of the ships and in fabrication of steel and other material specified. Fireproof construction throughout, including furnishing and fittings has been specified.

A long term replacement program for the Standard of New Jersey and affiliated companies' marine equipment was indicated by Mr. Hague, who said that construction of two new tankers per year is tentatively planned.

The Standard of New Jersey fleet now consists of 65 tankers with deadweight tonnage of 862,970 under American flag and 82 vessels with tonnage of 1,142,000 under flags of foreign affiliated companies.

"This is more than a gesture of confidence in the future of the United States and the oil industry," Mr. Hague said at a luncheon attended by high officials of the contracting parties given in New York last week.

"We need the tankers right now, because we have found that after a certain point of obsolescence it is not good business to keep old ships on the seas.

"Nevertheless, I am particularly happy that our need for these tankers and our ability to commit ourselves to the large expenditure required make it possible to give the domestic shipbuilding industry an impetus that should definitely lift it back to its peak-point prosperity for peace-time operation. Also, these contracts provide work for many thousands of skilled men in other lines."

Texas University Sale of Oil Leases Held

AUSTIN, Tex., July 21.—An auction this week put $228,760 in the University of Texas treasury, and assured the university one-eighth oil and gas royalties on 47 tracts of 160 acres each in Ector, Crane, Andrews and Upton Counties.

Col. E. Walters, auctioneer, with two medals on his chest, sold the university oil and gas leases at public outcry, the second time this method has been used in Texas in disposing of public lands or royalties in half a century.

Land Commissioner J. H. Walker, member of the board for mineral development of university lands, said it had not been determined whether the university got more by auction than by the former method of sealed bids.

Tract 4, NW quarter of section 10, Block 35, Ector and Crane Counties, sold to Skelly Oil Co. at $48,000, brought the top price. Tract 3, SE quarter of section 9, in the same block, went to the Gulf company at $37,000.

Only two of five tracts offered in Upton were purchased, and none of the four in Ward County were wanted. Most of the land was in Andrews County.

Sales by quarter sections, the tracts advertised by number, were:

Ector and Crane tracts: 1, Atlantic, $3,500; 2, Atlantic, $3,200; 3, Gulf, $37,000; 4, Skelly, $48,000.

Crane: 5, Atlantic, $7,400; 6, Atlantic, $7,100; 7, Atlantic, $7,400; 8, Empire, $6,600.

Andrews: 15, Atlantic, $7,000; 16, Atlantic, $8,400; 17, W. G. Rogers, $4,900; 23, W. G. and B. H. Rogers, $3,600; 24, Rogers, $4,600; 25, Phillips, $3,600; 26, Gulf, $2,600; 27, Superior, $3,600; 28, Phillips, $3,100; 29, Superior, $3,000; 34, Gulf, $2,100; 35, Phillips, $3,700; 36, Phillips, $3,000; 37, Gulf, $3,000; 38, Empire, $2,100; 39, Superior, $3,000; 40, Phillips, $3,600; 41, Phillips, $2,300; 46, Gulf, $2,100; 47, Superior, $2,900; 48, Skelly, $3,000; 49, Skelly, $3,100; 50, Skelly, $3,100; 51, Magnolia, $2,400; 52, Skelly, $2,100; 53, Magnolia, $1,100; 56, Phillips, $1,200; 57, Phillips, $1,500; 58, Superior, $1,600; 59, Skelly, $1,500; 61, Phillips, $1,200; 62, Gulf, $1,300; 63, Gulf, $1,300; 64, Gulf, $1,500; 65, Skelly, $2,000; 66, Gulf, $1,700; 67, Gulf, $1,800.

Upton: 69, Phillips, $1,100; 71, Humble, $1,000.

Rocky Mountain Runs

Estimated daily average production in the Rocky Mountain fields in the week ending July 18 was as follows:

WYOMING

	Bbls.
Salt Creek	16,280
Big Muddy	1,500
Badger Basin	40
Black Mountain	360
Byron	110
Dallas Derby	570
Dutton Creek	60
Elk basin	310
Ferris	60
Frannie	790
Garland	120
Grass Creek	1,400
Hamilton dome	1,420
Hidden dome	90
Hudson	340
LaBarge	1,170
Lance Creek	3,630
Lost Soldier	1,150
Midway	40
Oregon Basin	2,360
Osage	790
Pilot Butte	30
Rock River	1,910
South Casper	20
Poison Spider	170
Quealy dome	110
Teapont	20
Warm Springs	50
Total Wyoming	34,900

MONTANA

Buckley-Border	220
Cat Creek	750
Cut Bank	9,000
Dry Creek	1,350
Kevin-Sunburst	4,500
Lake Basin	40
Pondera	1,150
Total Montana	17,010

COLORADO

Florence	170
Fort Collins and Wellington	330
Iles dome	3,240
Moffat	450
Orchard	70
Rangely	80
Tow Creek	170
Total Colorado	4,510

NEW MEXICO

Artesia	640
Cooper	8,630
Eunice	20,700
Hobbs	23,250
Hogback	200
Jal	3,150
Lea	1,020
Maljamar	2,520
Monument	10,050
Rattlesnake	750
Table Mesa	80
Total New Mexico	70,990
Total Rocky Mountain region	127,410

Southwest Texas Fields

(Continued from Page 76)

week. About 2½ miles west of production in the field, La Jita Corp. will drill a wildcat on the Schallert lease of the Abajo grant.

In the Lower Rio Grande Valley, the most important field development was the eastward extension of the Guerra field. Sun Oil Co. No. 11-A Guerra was completed for about 170 bbls. per day, adding to the proven acreage in the field.

Detailed report of completions and field work will be found in the section on drilling operations which starts on page 91.

Crude Stocks

Grade of Crude Oil	June 27	July 4
Pennsylvania grade	4,203,000	4,207,000
Other Appalachian	863,000	847,000
Lima-N. E. Indiana-Michigan	1,333,000	1,296,000
Illinois-S. W. Indiana	10,222,000	10,218,000
N. Louisiana and Arkansas	10,602,000	10,510,000
West Texas-S. E. New Mexico	28,428,000	28,724,000
East Texas	20,903,000	20,955,000
Other Mid-Continent	125,287,000	124,873,000
Gulf Coast	29,097,000	28,709,000
Rocky Mountain	26,426,000	26,490,000
California	‡34,284,000	34,445,000
Foreign	2,862,000	2,494,000
Total reported weekly	‡294,510,000	293,768,000
Estimated of unreported stocks	16,850,000	16,850,000
Total stocks	‡311,360,000	310,618,000

(‡)Revised.

C. J. Stockbridge, assistant to E. E. Overton, bulk sales manager of Shell Eastern Petroleum Products, Inc., is now on his vacation at Swann's Island, off the coast of Maine.

Edwin J. Schwanhausser has been elected president of the Buffalo, N. Y., chamber of commerce. President Schwanhausser is manager of the Buffalo works of Worthington Pump & Machinery Corp.

Col. H. B. Fell, president, and Russell B. Brown, general counsel, of the Independent Petroleum Association of America, were guest speakers at a banquet of the Oil and Gas Association of Michigan, Friday evening, July 17, at the Midland, Mich., Country Club.

Left to right: A. P. Edwards, production department and Pete Styner civil engineer, both with Union Sulphur Co., located at Sulphur, La.

PERSONAL

DESAIX B. MYERS, of Los Angeles, Calif., manager of exploration, Union Oil Company, joined the company in 1923 as assistant chief geologist, and was made chief geologist in 1928. He is a native of Washington, D. C., and attended Pennsylvania University, from which he graduated with the degree of B.S. in 1905. He later received the degree of S.B. in mining engineering and geology at Massachusetts Institute of Technology, and for many years was a consulting mining engineer and geologist in Los Angeles.

CHRIS JONAS has been placed in charge of the oil equipment department of the San Antonio Machine & Supply Company. He takes the place left vacant by the death of JIM COPELAND.

B. E. HULL, president, Texas Pipe Line Company, Houston, Tex., was a Bartlesville, Okla., visitor last week en route to the East.

W. MULLEMEISTER, superintendent of the Houston refinery of Shell Petroleum Corporation, left last week on a three months' vacation to be spent in Europe.

DAVID L. TRAX, production engineer, Gulf Oil Corporation, Gypsy division, Tulsa, left for his vacation in Colorado on Saturday vowing he would find a cool spot and try his luck at fishing in Estes Park and around Long's Peak.

HOMER CHARLES, who was formerly with Indian Territory Illuminating Oil Company in Bartlesville, Okla., has accepted a position with Phillips Petroleum Company as geologist in charge of the Kansas division. He succeeds D. B. WINES, who is now with Tidal Oil Company at Tulsa.

JOHN CRAM, scout for the Continental Oil Company, has been transferred from Amarillo, Tex., to Wichita, Kans., and CARL WALTERS has been transferred from Kansas to Shreveport, La.

FRANK R. CLARK, chief geologist and vice president of Marathon Oil Company, has been visiting the company's geological offices at San Antonio, San Angelo, Laredo and Houston, Tex.

VERNON STOUT, formerly with a supply company at Houston, Tex., has just been appointed representative of Jon Long Manufacturer, Fort Worth, for Kansas and Oklahoma, with headquarters at Tulsa.

DORSEY HAGER of Lansing, Mich., and GRENVILLE HOWARD, of Winnipeg, Manitoba, are completing a reconnaissance of structures in southwestern Manitoba and Saskatchewan, to be followed by a check of gas reserves in the Lloydminster field in the latter province.

E. W. HEINZE, representative for several years in Forth Worth and Dallas, Tex., for the Norvell-Wilder Supply Company, has been transferred to Corpus Christi to take charge of the new store and district opened in that area. E. M. FRYE is the new representative for the company in Dallas.

T. I. DARLAND, Mid-Continent Map Company of Tulsa, is vacationing in Colorado.

D. A. ROBERTSON, in the land department of the Shell Petroleum Corporation, has been transferred from Shreveport, La., to Midland, Tex.

G. B. Jenkins, assistant head of the land department of the Stanolind Oil & Gas Company, Tulsa, spent a couple of days in the Fort Worth, Tex., office of the company during the week.

B. E. KELLING, formerly with Shell Petroleum Corporation, Tulsa, is now with Wescott-Greis Company with headquarters in Amarillo, Tex., and in charge of sales work in West Texas and New Mexico.

ALEXANDER FRASER, of St. Louis, Mo., president of Shell Petroleum Corporation, was a recent visitor in Europe where he participated with other Royal Dutch-Shell officials in honoring SIR HENRI DETERDING on his seventieth birthday.

HAROLD E. ASHDOWN, associated with International Petroleum Company, Ltd., of Canada, arrived in New York aboard the Grace line's passenger ship Santa Lucia last week sailing from Peru. W. GREEVAN, of the West Indian Oil Company, in Santiago, accompanied by MRS. GREEVAN, was a passenger on the same boat.

C. L. GLADDEN, vice president of Magnolia Petroleum Company, and M. J. McLAUGHLIN, vice president and production manager of the company, Dallas, Tex., were visitors at Shreveport and Rodessa, La., this week, in connection with the transfer of the properties from R. W. NORTON, of Shreveport to the Magnolia company.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

As the Prairie Oil & Gas Company, the largest buyer, is drawing on stocks, Kansas and Oklahoma producers are kicking over the price of oil, 48 cents per barrel. They want more for their crude.

The largest producing field in California is Midway, with 59,000 barrels a day. Coalinga is second with 49,000 barrels.

The Oklahoma Iron Works of Tulsa is putting in a supply shop at Tampico, Mexico.

20 YEARS AGO

Mid-Continent crude is posted at $1.45 per barrel on July 23, a 10-cent cut. Gulf Coast crude was also slashed. Too much oil.

Henry H. Argue, of Tulsa, veteran oil man in many fields, celebrates his seventy-third birthday. His first oil associate was John J. Carter, later the founder of Carter Oil Company.

John F. Black, manager of the Oklahoma division of the Producers Oil Company (the Texas Company), dies at his home in Tulsa.

Mrs. Joseph H. Evans, wife of the president of the Devonian Oil Company, passes away in Tulsa.

10 YEARS AGO

No big pools were opened in the first six months of 1926 and production in the United States fell off 13,966,480 barrels from the record of the first half of 1925. The average daily production per well in the United States was 6.48 barrels.

A 519-barrel well is completed by L. N. Rinehart in the old Ritchie County field in West Virginia, and a 500-barrel well is brought in in the ancient Greene County field in Pennsylvania by Consumers Fuel Gas Company.

There are 500 wells drilling in the Texas Panhandle fields.

A. W. AMBROSE, vice president, Empire Oil & Refining Company, Bartlesville, Okla., is in the East on his vacation.

E. M. JOHNSON has been transferred from Pampa, Tex., to Rodessa, La., as store manager for the Bridgeport Machine Company.

MISS MARIE CUMMINGS, of Tulsa, statistical clerk for the American Association of Petroleum Geologists, is visiting in Los Angeles, Calif.

J. M. COURTNEY, formerly district production superintendent for Magnolia Petroleum Company, has been transferred to Rodessa, La., in the same capacity.

BUCK WRIGHT, representative for the Continental Supply Company in Fort Worth, Tex., has just returned from a business trip to Youngstown, Ohio, and Pittsburgh, Pa.

TOM W. CROSBY, formerly with Graver Tank & Manufacturing Company in Tulsa, is now in the sales division of Wheatley Brothers Pump & Valve Manufacturing Company, Tulsa, to cover Oklahoma.

IRVING TIETZE, who graduated from the University of Missouri this spring, is now employed by Phillips Petroleum Company in the engineering department. He will probably work on pipe line corrosion problems.

STANLEY MARSH and family have sailed on the S. S. Europa for a month's tour of England and Scotland, returing to the United States on the Queen Mary about the middle of August. Mr. Marsh is a member of the oil firm of Hagy, Harrington & Marsh, of Amarillo, Tex. MR. and MRS. DON HARRINGTON sailed for Honolulu, Philippine Islands, on July 18 for a three months' vacation. Mr. Harrington is also a member of Hagy, Harrington & Marsh.

PARAGRAPHS

EDMONDSON D. LUMAN has been transferred from the Tulsa office of the Atlantic Oil Producing Company to Dallas, Tex., and promoted to the position of chief geologist.

WILLIAM LIDIKEY, who graduated from Washington University in St. Louis, Mo., this spring, has been employed by Empire Oil & Refining Company in Bartlesville, Okla., to do chemical engineering work.

DON R. KNOWLTON, general production superintendent of Phillips Petroleum Company, will leave July 29, on the Queen Mary for a month's vacation in Europe where he will attend the Olympic games and visit scenes where he engaged in the World War. He will return to Bartlesville, Okla., with MRS. KNOWLTON, who is at present vacationing in Europe with her mother.

J. A. MOFFETT has resigned as vice president of the Standard Oil Company of California to become chairman of the board of the California-Texas Oil Company, which was recently formed by the Standard Oil Company and the Texas Company to assume charge of drilling operations, production activities and marketing business of the two companies east of Suez and west of the Pacific Coast.

E. K. FRANK, president of Mid-Continent Map Company of Tulsa, is spending his annual vacation in Colorado.

R. A. MILLER, with Magnolia Petroleum Company, Longview, Tex., has been transferred to El Dorado, Ark., as production superintendent in that district.

J. M. LABON, sales representative for Bridgeport Machine Company, has been transferred to Shreveport, La., from Kilgore, Tex., handling northern Louisiana and southern Arkansas.

GEORGE B. MORRIS, president and general manager of Bradford Motor Works, Inc., Bradford, Pa., accompanied by MRS. MORRIS and their son, TOM, sailed from New York June 14 for an extended trip to England and the Continent.

MISS MARY DAVIS, formerly a secretary in the Michigan Public Utilities offices, Lansing, Mich., has succeeded MRS. CATHRYN HALL McKEE, Mount Pleasant, Mich., as secretary in the Oil and Gas Association of Michigan offices, Mount Pleasant.

WILLIAM H. BARLOW is now employed by the U. S. Bureau of Mines at Bartlesville, Okla. He was formerly employed in the research department of Phillips Petroleum Company as assistant to D. L. KATZ, who is in charge of production research work.

EUGENE HOLMAN and GEORGE H. LANG, officials of the Standard Oil Company of New Jersey, New York City; C. H. LIEB and L. F. McCOLLUM, of the Carter Oil Company, Tulsa; and W. R. FINNEY, Oklahoma and Ajax Pipe Line Companies, Tulsa, were all visitors at the offices of the Standard Oil Company of Louisiana, Shreveport, La., last week.

E. G. WOODRUFF, consulting geologist, Tulsa, is in Memphis, Tenn., this week consulting with U. S. Army engineers.

S. B. SEVERSON, general manager of the Dominion Natural Gas Company of Buffalo, N. Y., was in St. Thomas, Ontario, recently negotiating a natural gas franchise for that city.

T. C. CRAIG has been appointed representative of the economics department of Phillips Petroleum Company at Amarillo, Tex. His former position as Panhandle district geologist has been taken by G. L. KNIGHT.

L. L. AUBERT, chairman, announces the personnel of the new allocation committee, subcommittee of the central committee of California Oil Producers, as follows: WILLIAM HOBRO, Shell Oil Company; R. A. SPERRY, General Petroleum Corporation; R. N. McMASTER, Chanslor-Canfield Midway Oil Company, and H. S. STARK, Honolulu Oil Corporation, Ltd.

CLAUDE W. METZGER, general manager for Haynes Stellite Company in Houston, Tex., will spend three months in Japan promoting sales and service among the steel-cutting tool, oil-field tool and related industries. He sailed from Seattle on July 18 for Yokohama. Temporarily replacing him in the Houston office is R. L. LERCH, who was transferred from the Los Angeles office for the period of Mr. Metzger's absence.

GUY STEVENS, who represents Gulf Oil Corporation on the board of Kuwait Petroleum Company, Ltd., has returned to London, England, after visiting in the United States. Kuwait Petroleum Company, Ltd., a jointly operated concern by Gulf and Anglo-Iranian, is now drilling a wildcat test near the Persian Gulf.

"Breaks" Helped, But—

"Oh, it's just the breaks," C. D. Miller laughs if you refer to the fact that at 32 he is holding down the responsible position of general superintendent of production for the Barnsdall Oil Company in the Mid-Continent. The breaks helped perhaps, but Mr. Miller's friends say the secret of his rise lies in the fact that he had carefully prepared himself to take advantage of breaks. And, breaks or no breaks, he would have forged steadily ahead, they assert.

C. D. MILLER

Having been born and passed his boyhood in New Haven, Conn., it was natural that when he reached college age he should enter Yale. The next year, however, a shrinkage of financial resources making it necessary to cut expenses, he attended Washington and Jefferson College, in Washington, Pa. He studied there two years and then shifted to Birmingham-Southern College, Birmingham, Ala., where he received his bachelor of science degree.

Graduation exercises over, young Miller began working as a roustabout for Barnsdall at Rainbow Bend, Kans. Two years later he was transferred to Tulsa as production engineer. He wanted more drilling experience, and he got it by getting a leave of absence and working for a firm of drilling contractors. In 1930 he returned to Barnsdall as district superintendent at Rainbow Bend. The next year he was made assistant to W. K. Whiteford, general manager. When the latter moved over to the British American Oil Producing Company in 1935, Mr. Miller was made general superintendent of production.

A. B. BUTCHER, Happy Belting Company, Tulsa, has recently completed a factory inspection trip to Boston, Pittsburgh, and other eastern cities.

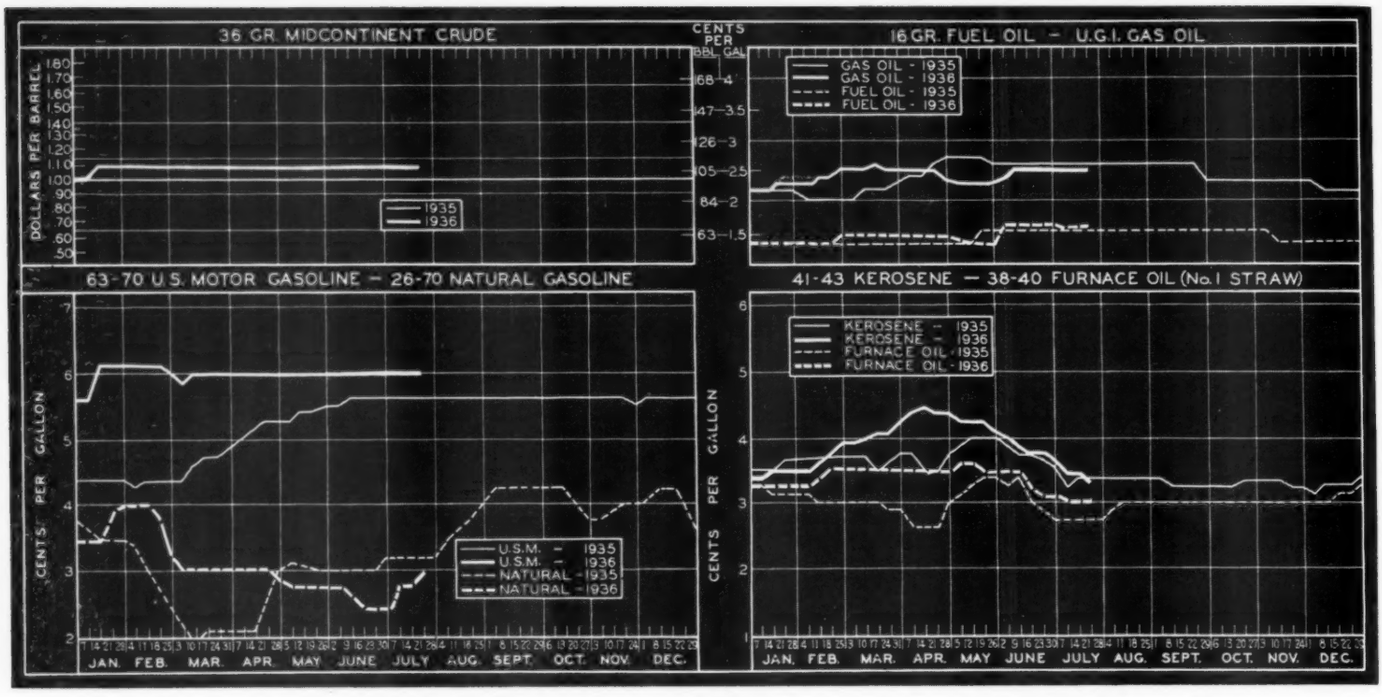
GORDON SCHUHMACHER, former sales representative for the Smith Separator Company, at Midland, Tex., is now employed by Reda Pump Company as a petroleum engineer at Bartlesville, Okla.

W. A. HEATH, formerly with the Kane Oil & Gas Company of Kane, Pa., is now employed by Phillips Petroleum Company as an assistant to H. L. BALDWIN and is working on water flooding and other secondary recovery methods.

A. A. SCHRECK, for the past eight years export manager for the Texas Company in Los Angeles, Calif., has been transferred to the New York offices of the Texas Company in an executive capacity and will have under his jurisdiction the export sales business of the company.

WILLIAM A. BARBRE, West Texas-New Mexico representative of the Muskogee Iron Works, Midland, Tex., was married to MISS HARRIETT TICKNOR, in that city on July 13. Miss Ticknor is daughter of MR. and MRS. E. W. TICKNOR, superintendent of the Magnolia Pipe Line Company tank farm at Midland, Tex.

ALEXANDER B. MACBETH, president of the Southern California Gas Company and past president of the American Gas Association and the Natural Gas Association of America, and a former vice president of the American Petroleum Institute, was recently honored by his alma mater, Stevens Institute of Technology, New Jersey, while on a trip East. Mr. Macbeth was presented with an honorary degree, doctor of engineering, and was also appointed a trustee of the institute.


36 GR. MIDCONTINENT CRUDE
CENTS PER BBL. GAL
DOLLARS PER BARREL
1935
1936
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE - 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE - 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Gasoline Demand Continues Rise in Group 3 and Spot Business Grows

By T. F. SMILEY

Gasoline consumption continued to rise in the past week throughout the consuming territory supplied by Group 3 refiners, and withdrawals from stocks were heavy, with the result that the market was regarded as in an increasingly stronger position. So large have been the drafts on inventories that some refiners were reported to be hard pressed to take care of all business offered them. At seeming variance with the vigorous character of the market were reports that brokers and jobbers had been able to pick up a few odd cars at concessions from the going prices. This was explained as indicating merely the determination of small refiners to allow no stocks to accumulate on their hands, so that the end of the touring season will find them with no material to get rid of in a slowing market. Nothing that might be classified as distress stocks were in sight anywhere. Tank-car prices were firm and there was no apparent widening of retail price cutting.

SPOT BUYING MORE ACTIVE

Pronounced increase in the volume of spot buying was observable, creating a condition in sharp contrast with that which prevailed a few weeks ago, when almost the whole movement of gasoline was on contracts. Several circumstances are mentioned in explanation of the rise in spot business. One is the diminishing supplies at many refineries, compelling companies in some cases to turn to other concerns for material to fill their own orders. Another is the record-breaking demand, which in some instances is more than contracts entered into can meet. There is also the recognized fact that if a jobber finds himself able to get material in the spot market at a lower figure than his contract with a refiner calls for, he is going to take advantage of the quotation offered in the open market.

The drouth, although unquestionably keeping motor fuel from achieving the record which it otherwise would have scored, has not had the blighting effect on the market which many feared. Some signs of lighter business are reported from areas known to be particularly suffering for rain, but in a general way any losses experienced in these spots seems to be offset by the more frequent resort to the family car as a means of gaining relief from the heat.

Natural gasoline fulfilled the promise it gave last week of rising to higher levels. This product now is definitely entering its season of peak demand. In interior Oklahoma offerings of all grades seemed to have dried up. Some of the 26-70 was available in the extreme southern part of the state, in plants equipped to produce that grade only and with northern points as their only outlets. It was predicted that within a few days Oklahoma refiners would have to turn to the Texas Panhandle and other points in that state.

KEROSENE NEEDS BRACER

Kerosene, more than any other member of the petroleum family perhaps, stood in need of a bracer. Buyers, hard to find anyway, were listless, and they were so captious about prices that there was no pleasure in dealing with them. The usual quarter-cent or more spread between the 41-43 and 42-44 grades lost its boundary lines to a great extent.

The Standard Oil Co. (Indiana) on Wednesday of this week restored normal prices for tractor fuel in Illinois, Indiana, Iowa, Minnesota, Missouri, North Dakota, South Dakota and Wisconsin, its action affecting about 400 points.

Somewhat freakish conditions were described in the distillate group. Plenty of prime white and No. 1 straw material was available, with small disposition to hold out for top prices; but quite different conditions were reported with reference to No. 2 straw and No. 2 dark, which seemed to be rather closely held. Although there was no difficulty in getting enough of both these products to meet the demands of the current spot market, it was said to require scouting around to find offerings of large quantities for storage or for purchase on contract, with delivery over the winter.

Refined Oil Market Barometer

Record-breaking consumption of gasoline is reported from virtually all areas, with satisfactory withdrawals from accumulated stocks. Natural gasoline is entering its season of brisk demand and higher prices are in sight. Kerosene and the tractor fuels are sluggish, but a relatively early pickup is expected. Storage of furnace oils is unexpectedly slow in starting.

MID-CONTINENT. Gasoline firm. Naturals rising. Kerosene dull. Lubricants steady.

EAST COAST. Motor fuel consumption at record height, but export business lags.

GULF COAST. General market steady.

PENNSYLVANIA. Gasoline steady.

CALIFORNIA. Gasoline firm. Fuel oil soft.

CHICAGO. Refinery shipments of gasoline heavy, with consumption at high level.

Vacationists and City Dwellers Swell Consumption of Motor Fuel in East

By H. STANLEY NORMAN

NEW YORK, July 20.—Movement of record gasoline volume from refineries to replenish service station and bulk plant stock tanks depleted by the heaviest motoring season known to the East Coast maintained a strong market in this territory the past week. Meanwhile, there was no apparent slackening of consumption as vacationists and city dwellers rushing to the beaches and mountains continued to demand almost unbelievable gallonage.

Typical of traffic in metropolitan New York is the passage of 1,000 cars per hour over the new Tri-borough bridge completed recently and dedicated two weeks ago linking Manhattan, the Bronx with Randall Island and Long Island. On Sundays the traffic is approximately 40,000 cars in 24 hours. The new bridge is enabling thousands of workers to use their private cars in traveling from their homes to work who formerly depended on the ferries, subways and L systems for transportation due to the time required to negotiate circuitous routes. Extremely heavy traffic is reported on New York, New England, Jersey coast and middle eastern highways as city dwellers continue their practice of spending weekends on the beaches and at mountain resorts. This type of travel is expected to increase, or at least reach the level established early this month as more intense heat of the summer becomes consistent. Oil companies regard the bonus as a distinct stimulus to the gasoline gallonage as record throughput reports come in from scores of strategically located stations.

Much of the brisk movement of gasoline from refineries to points of consumption is attributed this week to the Independence Day demand and to the first full week in July during which all existing heat records were broken and caused office workers to seek relief in cooler retreats. The exceptionally heavy demand during the first 10 days of July has worked the tank-truck departments to the limit replenishing average working stocks at practically all retail outlets.

NEW JERSEY SITUATION

Portions of New Jersey are the only outstanding weak links in the retail picture at the moment, although parts of New England are still below average. Price cutters are still annoying marketing conditions in New Jersey and some anticipate that another half to a full cent per gallon may be shaved from postings to meet competition. However, there is still hope that the New Jersey market may be bolstered before another general cut is necessary.

Refinery gasoline prices ranging from 6¾ to 7¼ cents per gallon in tankcars at Atlantic seaboard plants are extremely firm, but none of the leading manufacturers has taken leadership in advancing the structure. The weak spot, if it can be called such due to the comparative unimportance of the product involved, is the export wax trade. Suppliers from Russian and British Kingdom ports are engaged in shipping appreciable quantities of wax to South American consumers at prices below the New York quotations and domestic companies have suffered losses of business in that particular field. However, the domestic wax market is strong at unchanged spot prices and the buyers on contract basis are paying the advance of a quarter of a cent per pound which became effective July 1 for the last half of the year without protest and without contraction of volume. Inter-refinery buying of bright and neutral oils, improvement of export volume and a gain in inquiries for Pennsylvania grade products were factors bolstering the lubricating market this week. None of the refiners have revised their price quotations upward, but volume of business is gratifying to all quarters.

Export gasoline business is at a standstill with no cargoes lifted either from Eastern or Gulf Coast racks for foreign ports. The coastwise traffic is at the seasonal normal rate. Despite the absence of export orders, quotations for foreign business are firm at prevailing levels and those watching this branch of the market report that no material pressing for movement is in sight.

Most of the Eastern marketers are breathing somewhat easier with consistent reports of gasoline stock reductions from week to week and feel that the present rate of consumption will at least continue and perhaps expand for duration of the summer, providing of course, that no unusual weather conditions arise to retard motoring.

GASOLINE TRACTORS

Predictions that a broad field is opening up for regular grade gasoline in development of revolutionized farm tractors during the past six months are made by several close market observers, including the Ethyl Gasoline Corp. C. G. Krieger of the Ethyl engineering laboratories, who has been studying agricultural conditions for the past five years in the east and middle west believes that a mechanical revolution involving the greatest economic changes since invention of the reaper it at hand. Production of 6-cylinder, high compression tractors, Mr. Krieger declares, is the mainspring of the advance and holds the belief that power costs will be cut in half. The farm power engineering student declares that the comparatively recent development in tractors equipped with rubber tires, headlights, spotlights, multiple speed transmissions and other accessories will revolutionize mechanical farming with a correspondent increase in fuel demands. He anticipates that power will be increased about 25 per cent or fuel consumption and costs reduced by that amount.

On the basis that the average tractor in farm use works 500 hours a year using about 1,000 gallons of motor fuel and 30 gallons of oil, replacement of the 1,250,000 tractors now in use with the high compression type would save farmers $30,000,000 in fuel and $13,750,000 in oil per year, according to Mr. Krieger's estimates.

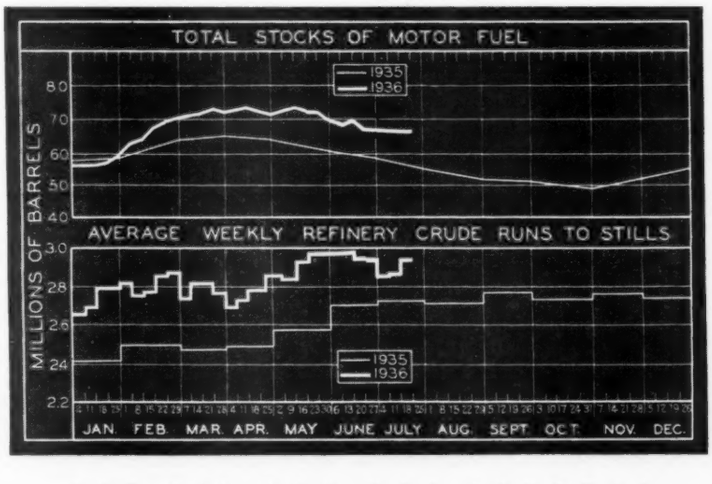
Marketers are also aware of other developments tending to increase demand for motor fuel, particularly in the aeronautical field. Replacement of obsolete units with the latest designs in aircraft with multiple motors of higher compression requiring more fuel is of outstanding importance, oil executives declare.

A. P. I. Weekly Refinery Statistics

Week Ending July 18, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	513,000	18,726,000	10,655,000
Appalachian	94.8	104,000	2,447,000	501,000
Indiana, Illinois, Kentucky	96.1	399,000	9,363,000	4,850,000
Oklahoma, Kansas, Missouri	84.8	302,000	6,133,000	3,371,000
Inland Texas	48.5	115,000	1,301,000	1,747,000
Texas Gulf	96.8	593,000	6,934,000	7,502,000
Louisiana Gulf	96.4	120,000	1,729,000	2,233,000
North Louisiana and Arkansas	90.0	43,000	319,000	433,000
Rocky Mountains	61.9	50,000	1,208,000	811,000
California	92.6	501,000	12,515,000	72,451,000
Total reported	89.7	2,740,000	60,675,000	104,554,000
Estimated unreported	.....	185,000	5,459,000	2,445,000
*Estimated total	.....	2,925,000	66,134,000	106,999,000
*Estimated total previous week	.....	2,870,000	66,646,000	105,790,000
†July 31, 1935	.....	2,739,000	56,446,000	108,322,000

*Bureau of Mines basis currently estimated. †Monthly report of U. S. Bureau of Mines.



Auto Output

NEW YORK, July 20.—Prediction that output of automobiles and trucks will reach 4,600,000 units this year, second largest production in the history of the industry, was made at a meeting of the Automobile Manufacturers' Association in Detroit. Leaders of the industry based their estimate on factory shipments for the first six months which were surpassed only in 1929 and on June sales which set a new high for the month.

President Macauley said the automobile worker is earning more per hour than in 1929, while living costs are 20 per cent under 1929, with the result that his real annual income is larger than in 1929 although he is working substantially shorter hours on the average per week. Since last November, automobile and automobile body manufacturers have had over 350,000 men and women directly and continuously on their payroll, a record for sustained high employment.

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of July 21, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Chicago	15.5	17.5	4.0	10.1
Decatur, Ill.	16.0	18.0	4.0	10.1
E. St. Louis	15 7	17.7	4.0	9.8
Joliet	14.5	17.5	4.0	10 1
Peoria	16.0	18.0	4.0	10.1
Quincy	15.8	17.8	4.0	9.9
Davenport, Ia.	16.0	(†)	4.0	10.1
Des Moines	15.8	(†)	4.0	9 9
Mason City	16.2	(†)	4.0	10.3
Sioux City	16.0	(†)	4.0	10.1
Duluth, Minn.	16.8	18.8	4.0	10.9
Mankato	16 4	18.4	4.0	10.5
Minneapolis	16.4	18 4	4.0	10.5
LaCrosse, Wis.	17.4	19.4	5 0	10.5
Green Bay	17.7	19.7	5.0	10.8
Milwaukee	16.3	18.3	5.0	10 4
Madison	17.4	19.4	5.0	10 5
Detroit, Mich.	15.0	17.0	4.0	8.8
Grand Rapids	15.4	17.4	4.0	9.3
Saginaw	15.6	17.6	4.0	10.1
Evansville, Ind.	17 7	19.7	5.0	10.6
Indianapolis	17.9	19.9	5.0	10.8
South Bend	18.1	20.1	5.0	11.0
Fargo N. Dak.	17.4	19.4	4.0	11.5
Huron, S. Dak.	17.9	19 9	5.0	11.0
Sioux Falls	17.4	19.4	5.0	10.5
Kans. City, Mo.*	15.4	17.4	4.0	8.0
Springfield	15.1	17.1	4.0	9.2
St. Louis	15.7	17.7	4.0	9.8
St Joseph*	15.4	17.4	4.0	9.5
Wichita, Kans.	14.9	16.9	4 0	8.0
Bartlesville, Ok.	15.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 3½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective June 1, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. No. 1, less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents. Stanolex furnace oil, less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents. Stanolex fuel "A," less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.0
Augusta	20.0	22.0	7.0	*13 0
Macon	20.0	22.0	7.0	*13.0
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21 0	23 0	9 0	11.0
Mobile	21.0	23.0	9.0	10.0
Montgomery	22.0	24.0	9 0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19 5	21.5	7 0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	10.0
Miami	19.5	21.5	8.0	13 5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20 0	8.0	12.5
Lexington, Ky.	19.0	21.0	6.0	11 0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	7.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction.	21 5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	....	6.0	14.5
Billings	22.5	24.5	6.0	14 5
Helena	22.5	24.5	6.0	14.5
Great Falls	22.5	24.5	6 0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23 0	25.0	6 0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.5	20.5	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 1 cents; divided dealer accounts, 3½ cents.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	21.0	22.0	6 0	‡16.0
Reno, Nev.	19 5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20 5	6.0	13.5
Spokane	22.5	23 5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Atl'tic City, N.J.	13.5	17.0	4 0	9.0
Newark	13 0	16 5	4 0	7.5
Annapolis, Md.	15.6	....	5.0	10 0
Baltimore	14.5	....	5.0	8.0
Cumberland	16.6	....	5.0	12.7
Wash'g'n, D. C.	12.5	16.0	3.0	9.0
Danville, Va.	17.5	21 0	6.0	12.9
Norfolk	16 0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Raonoke	17.5	21.0	6.0	12 9
Charles'n, W. Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	15.0	18.5	5.0	12.2
Charlotte, N. C.	18.4	21.9	7.0	12.6
Hickory	18.9	22.4	7.0	13 0
Mt. Airy	18.7	22.2	7.0	12 8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	12.7
Charleston, S.C.	17.6	20.5	7.0	11.3
Columbia	18.3	21.8	7.0	12 6
Spartanburg	18.7	22.2	7.0	12.8

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Omaha	18 4	20.4	6.0	10.4
McCook	19.1	21 1	6.0	11.1
Norfolk	18.8	20.8	6.0	10.8
North Platte	19.2	21.2	6.0	11.2
Scottsbluff	19.9	21.9	6 0	11.9

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Philadelphia, Pa.	16.5	17 5	5.0	9.5
Pittsburgh	17.5	19.5	5.0	9.0
Allentown	17.0	18.0	5.0	9.5
Erie	17.5	18.5	5 0	8.0
Scranton	16.75	17.0	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	17.0	5.0	10.0
Wilmington	17.0	17.0	5.0	9.0
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	14.0	17.5	4.0	7.75
Hartford, Conn.	12.5	16.0	4.0	7.0
New Haven	12.5	16.0	4.0	7.5
Providence, R. I.	12.0	15.5	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
N. Orleans, La.	18 5	22.0	‡9.0	12.0
Baton Rouge	17.0	20.5	†7.0	11.5
Alexandria	18.5	....	††8.0	11.0
Lafayette	19.0	....	‡*8.0	12.5
Lake Charles	19.0	....	††8.0	11.0
Shreveport	16.5	20.0	†7.0	10.0
Knoxville, Tenn.	20.5	24.0	8.0	14.0
Memphis	19.0	22 5	8.0	11.0
Chattanooga	20.5	24.0	8 0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8 0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Post deal	Serv. sta.	Inc. tax	tank wag.
Albany, N. Y.	13.0	16.5	4.0	7.75
*Met. N. Y.				
Manhtn., Bronx	13.2	18.2	4 0	7.25
Staten Island	13.2	18.2	4.0	7.25
Qu'ns & Br'klyn	13.2	18.2	4.0	7.25
Buffalo	13.5	17.0	4.0	8 25
Rochester	13.5	17.0	4.0	8.25
Syracuse	13.5	17.0	4.0	8.75
Boston, Mass.	13.0	16.5	4.0	7.50
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	15.0	18.5	5 0	8 00
Burlington, Vt.	16.5	20.0	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	15.0	17.0	5.0	7.5
Fort Worth	15 0	17 0	5.0	8.5
Houston	16.0	18.0	5.0	8.5
San Antonio	16.0	18.0	5.0	8.5
El Paso	17.0	19.0	5.0	8.0
Muskogee, Ok.	17.0	19.0	5.0	8.0
Okla. City	17.0	19.0	5.0	8.0
Tulsa	17.0	19.0	5.0	8.0
Ft. Smith, Ark.	17.0	19.0	5.0	8.0
Little Rock	19.5	21.5	7.5	9.5
Texarkana	16.5	18.5	5.0	8.5

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline
IMPERIAL OIL, LTD.

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	32.5	7.0	22.0
Saskatoon, Sask.	32.3	35.3	7.0	24.8
Edmonton, Alta.	31.7	34.7	7.0	24.2
Calgary, Alta.	29.0	32.0	7 0	21.5
Vancouver, B. C.	25 0	29.0	7.0	23.0
Montreal, Que.	19.5	22.0	6 0	17.5
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. of Kentucky July 11 advanced tank-wagon gasoline .25 cent and station gasoline .5 cent in Vicksburg; July 15 advanced tank-wagon and station gasoline 1 cent in Birmingham.

Standard Oil Co. of New Jersey July 10 reduced tank-wagon and station gasoline .5 cent in Atlantic City; July 10 reduced tank-wagon and station gasoline 1 cent in Newark.

Crude Price Changes

Effective July 20 Stanolind Oil & Gas Co. cut crude prices 10 cents per barrel in two Wyoming fields. The new schedule quotes Grass Creek light oil $1.18 and Elk Basin oil $1.18.

A.I.M.E. Transactions, 1936

The 1936 volume of Transactions of the Petroleum Division of the American Institute of Mining Engineers is off the press and has been distributed to members. This book is titled Vol. 118, Petroleum Development and Technology and contains 536 pages bound in cloth. It contains the papers presented before the Division of Petroleum at Houston, Tex., meeting held in October, 1935, and the New York City meeting held in February, 1936.

The book is divided into five chapters devoted respectively to (I) Estimation of Petroleum Reserves; (II) Production Engineering; (III) Petroleum Economics; (IV) Production; (V) Refining. In the chapter on production engineering there is a set of data on the various oil fields of this and foreign countries in tabular form which is quite complete and very valuable to anyone interested in the oil industry.

The book is priced at $5.00 and may be obtained through the Book Department of The Oil and Gas Journal, Tulsa, Okla.

G. L. Yates, instructor in the school of petroleum engineering, University of Pittsburgh, is spending his summer vacation studying Mid-Continent oil fields. He is making his headquarters in Bartlesville, Okla.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 21, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d gr.)	.04⅞	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04⅞	.05⅛
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
64-66 375	.05	.05⅛
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400	.04⅞	.05
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:	
62 octane and below	.05⅝
63-67 octane	.06½
68-70 octane (regular)	.06⅝
60-62 400	.05⅝ .06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:	
62 octane and below	.05⅜
63-67 octane	.06½
68-70 octane (regular)	.06⅝

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05½
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04⅞	.05
63-67 octane	.05⅜	.05½
68-70 octane (regular)	.06	.06⅛
64-66 375	.04⅞	.05
68-70 360	.05	.05⅛

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅞
60-64.9 octane	.07
65-70 octane	.07¼
64-66 375	.05⅝
68-70 350	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400	.07¾	.08½

EAST COAST (domestic)—

U. S. Motor, below 60 octane:	
*New York (Bayonne)	.06½
Baltimore	.06½
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.06⅝
Philadelphia	.06¾
Boston	.06¾
Baltimore	.06¾
Charleston, S. C.	.06¾
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07
Philadelphia	.07
Boston	.07
Baltimore	.07
Charleston, S. C.	.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅝	.05¾
60-64.9 octane		.06
65 octane and higher	.06⅛	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅜
52-54 450 (blending)	.05⅝
54-56 450 (blending)	.05⅞

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03
Grade 18-55	.03⅜
Low vapor pressure grade:	
*14 lb. v.p. (max.)	.04⅛ .04¼
*12 lb. v.p. (max.)	.04⅜ .04½

*Nominal.

NORTH TEXAS—

Grade 26-70	.02¾
Grade 18-55	.03¼ .03⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.02⅞ .03

CALIFORNIA—

75-85 375-390	.07 .07⅜

Tractor Fuel

OKLAHOMA (Group 3)—

46-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.03⅞ .04
41-43 gr., 300-350 l.b.p., 110-125, flash, 500-520 e.p.	.04 .04⅛
47-48 gr., 210-230 l.b.p., 480 max. e.p.	.04⅞ .05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝ .03⅝
42-44	.03⅝ .03¾

NORTH TEXAS—

41-43	.03½ .03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.03⅜ .03⅞

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅜ .04½

PENNSYLVANIA (inland refineries)—

45	.05 .05⅛
46	.05⅛ .05¼
47	.05⅛ .05⅜

CHICAGO (Based on Group 3)—

41-43	.03½ .03⅝
42-44	.03⅞ .04

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½ .05

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝ .04⅞

GULF COAST (domestic)—

41-43	.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅛ .03¼
No. 1 straw, 38-40	.03 .03⅛
No. 2 straw, 32-36	.02¾ .03
No. 2 dark, 32-36	.02⅝ .02⅞
No. 3, 28-32	.02½ .02⅝
No. 3, 15 and above, 28-32	.02⅜ .02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅛ .03⅜
No. 1 straw, 38-40	.03 .03¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.02⅝ .02⅞

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03¼ .03½
No. 3, 28-32	.03 .03⅛

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-42	.03⅛ .03¼
No. 1 straw, 38-40	.03 .03⅛
No. 2 straw, 32-36	.02⅞ .03
No. 2 dark, 32-36	.02⅝ .02⅞
No. 3, zero to 15, 28-32	.02⅝ .02⅞
No. 3, 15 and above, 28-32	.02⅜ .02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅞
*No. 2	.04¼
*No. 4	.03⅝

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅛ .02⅜
No. 4, 24-28, low cold test	.95 1.05
No. 4, 15 and above, 24-28	.80 .85
No. 5, low cold test	.72½ .80
Below 18 fuel oil, industrial	.67½ .75

NORTH TEXAS—

U.G.I. gas oil	.02⅜ .02½
No. 4, 24-28, low cold test	.95 1.00
No. 5, low cold test	.77½ .80
Below 18 fuel oil, industrial	.65 .75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝ .02¾
10-14 fuel oil, industrial	.70 .75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60 .65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾ .02½
No. 4, 24-28	.95 1.00
No. 4, 15 and above, 24-28	.77½ .82½
No. 5, 18-22	.72½ .75
No. 6, 10-16	.62½ .67½

PENNSYLVANIA (inland refineries)—

26-40	.04⅝ .04½

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.00	1.20
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.10	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.75	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.65	.75
San Francisco:		
24 plus diesel, per bbl.		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼ .03⅜
28-30 diesel (bunkers)	1.50
Bunkers (bulk cargoes)	.85
Bunker C (bunkers)	.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04¼
28-30 diesel (lighterage 6¼ plus per bbl.)	1.65
28-30 diesel (tankers)	.04¼
*Bunker C (to ocean-going ships in N. Y. harbor)	1.05
Industrial fuel (tankcars)	.03⅝

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.21⅛
150-160 D, 0-10	.18½
150-160 D, 15-25	.18
150-160 E, 15-25	.17½
100-110 D, 0-10	.17
Steam refined:	
631 green (treated)	.14
600 dark green (untreated)	.05½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):	
10 pour test	.24½ .25
15 pour test	.23½ .24
20 pour test	.22½ .23
25 pour test	.21½ .22
Steam refined:	
600	.13½ .14
650	.14½ .15
600 Pennsylvania flash	.15½ .16
630 flash	.17½ .18
600 Warren E filtered	.15½ .16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.10
180-3	.11¼
180-4	.10⅜
200-3	.11⅜
200-4	.11¼
250-3	.13⅜
250-4	.13¼
280-3	.14⅜
280-4	.14¼
300-3½	.15¼
400-3½	.16
100-2 paraffin oil	.05⅝
15-20 Cold Test:	
200-3	.10⅜
200-4	.10¼
240-3	.12⅜
240-4	.12¼
280-3	.13⅜
280-4	.12¾

GULF COAST—

Pale Oils:		
200-3	.06½	.07
300-3	.07	.07½
560-3½	.08	.08½
750-3½	.08½	.09
1,200-3½	.09	.09¼
2,000-4	.09¼	.09½
Red Oils:		
200-5-6	.06½	.06⅝
300-5-6	.06¼	.07
500-5-6	.07½	.08
750	.08	.08½
1,200-5-6	.08½	.09

CALIFORNIA (moving to dom. market)

Pale Oils:	
100-2½-3	.06
200-2½-3	.06¼
300-3-3½	.06½
400-3-4	.08½ .09¼
450-3-4	.09⅝ .10
550-3-4	.10 .10¼
600-3-4	.10¼ .10½
Red Oils:	
200-4-5	.06
300-5-6	.06¼
350-5-6	.07 .08
400-5-6	.08 .08¼
450-5-6	.08¼ .08½
500-5-6	.08½ .09
600-5-6½	.09 .09½
760-6½ plus	.09⅝ .10
750-6½ plus	.10 .10½
900-6½ plus	.10¼ .10½

PENNSYLVANIA—

150 vis. at 750° F., color, 400-405 flash:	
Zero pour test	.20 .20½
10 pour test	.19 .19⅝
15 pour test	.18½ .19
25 pour test	.17⅝ .18
180 vis. at 70° F., 3 color:	
25 pour test	.20 .20½
200 vis. at 70° F., 3 color:	
Zero pour test	.23½ .24
10 pour test	.22½ .23
15 pour test	.22 .22½
25 pour test	.21 .21½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235 .0240
124-126 (a.m.p.) w.c. scale	.0240 .0245

NEW YORK—

Wax in bags fully refined:	
123-125 (a.m.p.) wax	.0445
125-127 (a.m.p.) wax	.0455
128-130 (a.m.p.) wax	.0480
130-132 (a.m.p.) wax	.0505
133-135 (a.m.p.) wax	.0535
125-137 (a.m.p.) wax	.0560
124-126 (a.m.p.) w.s.	.0240 .0250
124-126 (a.m.p.) y.s.	.0240 .0245
Petrolatum in barrels, carload lots:	
Dark green	.01⅞
Amber	.02⅞ .03
Extra amber	.03 .03⅛
Lily white	.06⅝ .06¾
Snow white	.07¾ .07⅞
Cream	.05⅝ .05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05¼
60-62 400	.05⅜
61-63 390	.05⅜ .05½
64-66 375	.05½

LOS ANGELES—

U. S. Motor grades:	
53-55 octane	.04½
55-65 octane	.04½ .04⅝
65-67 octane	.04¾ .05
67-69 octane	.05 .05¼
Above 69 octane	.05¼ .05½
65 and above 400 e.p.	.05½ .06

KEROSENE

GULF COAST—

41-43 prime white	.03
41-43 water white	.03½
44 water white	.03⅝

LOS ANGELES—

41-43 water white	.04½ .05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.22 .22½
600 S.R. unfiltered	.20 .20½
650 S.R. unfiltered	.21 .21½
600 flash S.R.	.22 .22½
630 flash S.R.	.24 .24½
Bright Stocks:	
8 color	.28 .28½
6½ plus color in dilution	.27 .27½

NEUTRAL OIL

200-3 color	.27½
150-3 color	.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.	.04125
125-127 a.m.p.	.0425
128-130 a.m.p.	.0450
133-135 a.m.p.	.0525
135-137 a.m.p.	.0550
Crude scale:	
124-126 w.s.	.0260 .0270
124-126 y.s.	.0240 .0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light*†	1.18
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont. (Jan. 29, 1936)*.	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1923)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont.	1.28
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (June 15, 1936)*	1.42
Midland, Mich. (June 15, 1936)†	1.42
West Branch, Mich. (June 15, 1936)	1.26
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co. †Simrall Corp.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936).	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana, El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.
(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.
(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B — Includes Titusville district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.38
Group E — Includes Eideneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clean naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.56

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

Mexico

Panuco*	$ .74

*F.o.b. ship, based on April transactions and exclusive of production and export taxes and bar dues.

W. A. Clark, Jr., consulting geologist, has become associated with the Turman Oil Co., a subsidiary of the Middle States Petroleum Corp., as division geologist at Houston, Tex., where the company recently opened offices in the Esperson Building.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	.$75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E.Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.65	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.70	.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.65	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.66	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.78	.68	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.71	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.74	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.77	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.80	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.06	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.83	.98	.90	.83	....	.90	.91
26-26.9	1.08	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	.86	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.02	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	.88	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	.91	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	.94	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	.97	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	.99	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	1.02	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	1.04	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. Santa Paula and Orcutt posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended July 18 Sales	Week ended July 18 High	Week ended July 18 Low	Week ended July 18 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	3,600	108	97¾	108	Amerada Corp.	788,675	N.P.	50cQ	7-31-36	$2.00	80	48½	55⅝	39
35⅛	26⅝	8,700	30⅝	29⅝	30⅝	Atlantic Refining	2,664,904	$25	25cQ	6-15-36	1.00	28	20½	35¼	21½
20	14⅛	18,200	17¼	16½	17¼	Barnsdall Corp.	2,131,090	$5	20cQ	8-1-36	‡.20	14¾	5⅞	10	5⅞
21⅝	14	68,800	21⅜	20½	21	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-36	.20	15¾	3⅜	19¼	6⅝
15¼	11½	32,700	13½	13	13⅛	Consolidated Oil Corp.	13,983,287	N.P.	15cQ	8-15-36	.25	12¼	6½	14¼	7¼
38½	28⅛	31,500	33½	32½	33⅜	Continental Oil of Delaware	4,682,671	$5	25c	7-31-36	.62½	35	15⅛	22¾	15¾
34¾	21	7,700	26¼	24⅞	25	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11¾	23½	12
12¼	6⅜	15,100	10¼	9½	10	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
23	17¼	16,700	22¾	21¾	22¾	Mid-Continent Petroleum	1,843,872	$10	40cSA	6-1-36	.40	20½	9½	14¾	9⅛
26¼	16¾	900	18¾	18	18½	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅜	..	..
50	19⅞	6,300	50	48½	48¾	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12½	21,900	14⅛	13⅛	14	Ohio Oil Co.	6,563,377	N.P.	25cSA	6-15-36	.30	14¼	9¼	15⅞	8½
18	11¾	900	13½	13⅛	13¼	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	14	6¾	9⅜	5½
4¼	1⅜	700	2¼	2¼	2½	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	16,200	45⅞	43⅜	45⅞	Phillips Petroleum	4,152,836	N.P.	50cQ¶	6-1-36	1.25	40	13¾	20¾	13⅜
16½	11⅞	9,400	15½	14⅝	15½	Plymouth Oil Co.	1,050,000	$5	25c	9-30-36	.25	13	6½	16¾	7¼
24⅞	16¼	54,200	20½	19⅛	20½	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅝	30¾	3,400	35¼	33⅝	35	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-36	1.00	36⅞	20¾	38⅜	20¾
19¼	14⅜	13,200	18⅛	17¾	18	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
121⅛	110½	1,000	121⅛	120	120	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	111	63⅛	89	57
6¾	3½	2,600	4⅛	3⅝	4	Simms Petroleum	461,698	$10	1.25 liq.	7-20-36	11.75 liq.	18¾	4¾	17⅛	7¼
31½	19½	2,600	26½	25¾	26¼	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17	12½	61,200	14⅜	13¾	14	Socony-Vacuum	31,151,075	$15	20cSA	3-16-36	.30	15¾	10⅝	19⅞	12½
47⅝	35⅝	16,600	39	38¼	39	Standard Oil of California	13,014,754	N.P.	25cQ†	6-15-36	1.00	41⅛	27¾	42⅞	26½
40¼	32¾	20,500	37½	36½	36⅝	Standard Oil (Indiana)	15,215,677	$25	25cQ†	6-15-36	1.00	33⅜	23	32¾	23¼
30	25	100	26	26	26	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	32	20	41	26
70	51⅛	41,500	65	61⅝	65	Standard Oil of New Jersey	25,856,081	$25	75cSA¶	6-15-36	‖1.25	52⅜	35¾	50⅛	39¼
91	72	1,500	80¾	78	80	Sun Oil	1,733,013	N.P.	25cQ	9-15-36	$1 & 7% Stk.	77	60½	74¼	51½
39½	28⅞	69,900	39¼	37¾	39	Texas Corp.	9,340,069	$25	25cQ	7-1-36	1.00	30¼	16½	29⅜	19⅝
15¾	7½	26,800	12½	11½	12	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	....	9¼	3¼	6½	2½
19⅜	14¾	10,500	16¼	15¼	16⅛	Tide Water Associated	5,642,342	N.P.	15cQ	6-1-36	....	15⅞	7⅝	14⅜	8
106½	100⅝	100	105	105	105	Tide Water Associated pfd.	626,221	$100	$1.50Q	4-1-36	$6.50	104½	84	87	64½
28½	20⅞	8,700	24	23¼	23⅛	Union Oil of California	4,386,070	$25	25cQ	8-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	1,600	28⅛	26¾	27¼	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	1,900	4	3⅝	4	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras.

New York Curb

1936 High	1936 Low	Week ended July 18 Sales	Week ended July 18 High	Week ended July 18 Low	Week ended July 18 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
20¼	13¼	3,700	17¼	16¼	17	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	300	43	41¾	43	Buckeye Pipe Line Co.	200,000	$50	75cQ	9-15-36	$3.00	42½	30½	38	26
4⅞	2½	1,800	2¾	2⅝	2¾	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	300	121	119	121	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	6-29-36	6.50	157	115	150	116
7⅜	3	54,500	5⅛	4¾	4¾	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4	⅝	1,800	⅞	¾	⅞	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	½
4⅛	1½	12,200	2½	2	2¼	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34¾	19⅞	18,300	27⅝	24¼	24⅝	Creole Petroleum	6,974,356	$5	25c	7-15-36	.20	23¾	10	14⅜	9⅝
12	9	100	9¼	9¼	9¼	Darby Petroleum	351,390	$5	25cSA	1-15-36	.50	8⅞	4	7½	4⅛
4⅜	1⅞	3,300	4	3	3⅞	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	⅜	2¼	1
44	39	50	38½	38½	38½	Eureka Pipe Line	50,000	$50	$1Q	5-1-36	4.00	38	33¼	37	30
98	72	5,400	84¾	82	86	Gulf Oil Corp.	4,538,101	$25	25c	7-1-36	....	74¾	50¼	76¾	49¾
76½	57	4,500	67⅞	65	67¾	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7-1-36	1.25	64	44	49½	33¼
24½	20	4,700	21⅜	20⅝	21	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-36	1.25	22½	15⅜	17⅞	12⅝
9¼	5½	800	7¼	6⅞	7⅛	Indiana Pipe Line	300,000	$10	20cSA	5-15-36	.35	6⅛	3⅝	6⅞	3⅝
39⅝	33½	5,500	36⅜	35⅞	36	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	9,300	12¾	11⅞	12	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	11⅜	4⅜	5	2⅛
15	7⅜	1,200	11⅞	11⅛	11⅛	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	8⅛	3½	6	3⅜
14¼	9⅞	4,800	13½	12½	13	Lone Star Gas	5,382,723	N.P.	20cSA	8-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	900	6	5¾	6	Mountain Producers	1,682,182	$10	30cSA	7-1-36	.90	5¾	4⅛	5½	4
23	17⅝	3,400	19	18⅝	18⅞	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-36	1.25	20	11¾	18½	13⅛
15¾	9¼	200	11½	11¼	11½	National Transit	509,000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	1,400	3¼	3	3	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	1,500	3¼	2¾	3¼	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
15⅜	9¼	200	5	5	5	New York Transit	100,000	$5	15cSA	4-15-36	.30	4⅞	3	4¾	3
9¼	4⅞	500	7⅜	7	7	Northern Pipe Line	120,000	$10	15cSA	7-1-36	.50	8	5¼	7	4⅝
6⅝	3¼	64,000	6	5⅝	5⅞	Pantepec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4⅝	6,200	16⅞	16	16¼	Root Petroleum Co.	336,045	$1	25c	8-1-36	....	5	1½	..	..
4¾	1⅞	400	3¼	3⅛	3¼	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
10	7	900	7⅝	7¼	7¼	Salt Creek Producers	1,496,859	$10	40cSA	6-30-36	1.20	7½	5½	7⅞	5½
40½	32¼	700	39¼	38¼	39¼	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	34½	21⅝	26½	17½
7⅞	3¼	1,100	4½	4⅛	4⅜	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5	3⅞	5½	3½
60	54	100	48	48	48	Southwest Penna. Pipe Lines	35,000	$50	$10 spl.	7-1-36	5.00	56	44¼	47	41
23⅜	17⅛	4,700	19⅜	18½	18⅞	Standard Oil of Kentucky	2,604,790	$10	25cQ	6-15-36	1.25	24	18	18⅜	14⅝
14⅝	11	700	13	12	13	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7⅜	16⅞	8¼
36¼	21⅜	2,700	29	27¼	29	Standard Oil of Ohio	753,740	$25	25c	7-15-36	....	23⅝	11½	28½	12¼
5	2⅝	11,500	4	3¾	3⅞	Sunray Oil	1,610,810	$1	....	4-15-31	....	2¾	⅞	2	1/16
9¾	6	1,500	6⅜	6¼	6¼	Texon Oil & Land	336,028	N.P.	15cQ	6-30-36	.60	6⅞	5	11	4⅜
7½	4⅜	10,400	5¾	5¼	5¾	Texas Gulf Producing Co.	888,082	N.P.	....	12-29-34	....	4¾	2½	7	3⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

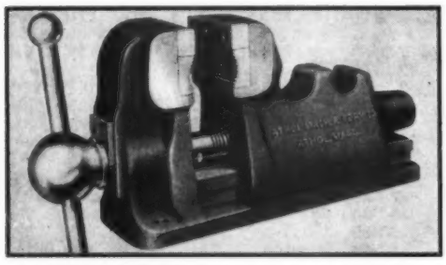
Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Facings of Vise Are Shaped to Hold Heavy Pipe Securely

The Athol Machine & Foundry Co., Athol, Mass., and Chicago, is introducing a heavy pipe-vise embodying important features. Base and jaws are extra-heavy semisteel castings, proportioned to withstand strains. The front jaw is fixed, and the back jaw moves, a feature which allows long lengths of pipe to rest upon the bench. There is no need for blocking or special supports as is the case when a movable front jaw carries the pipe out beyond the edge of the bench.

Large, deeply checked tool-steel flaw-jaw facings, with straight section for ordinary work, are provided. The special pipe-grip sections have dou-



ble-radius curves. Pipe of any size is firmly held, as the shape of the jaw facings assures contact at several points, instead of at only one.

The Athol buttress thread screw is used in this new vise, and the screw is equipped with a removable nut. The buttress thread is said to give greater strength. It is heaviest at the root, with its extra metal and extra strength at the point where the strain is greatest. Athol No. 1115 pipe-vise handles pipe from one-eighth to 6 inches and has 5-inch jaw width. It is available in stationary-base type only.

Bulletins, Booklets and Other Literature for the Trade

Literature available from Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., includes "Durable Tank Letter No. 1," "Separator Letter No. 4," and "Separator Letter No. 5." Each is illustrated with actual photographs.

Weber vertical and horizontal two-cycle convertible engines and Weber clutches and accessories are described and illustrated in a 24-page booklet announced by the Weber Engine Co., Kansas City, Mo.

The Insley Manufacturing Corp., Indianapolis, Ind., has for distribution a 20-page catalog covering the new three-eighths yard full revolving Insley excavator.

The Barrett Co., 40 Rector Street, New York, has issued a new edition of its booklet "Ammonia in Petroleum Refining," containing information on prevention of corrosion, neutralizing and refrigeration. Among new uses for anhydrous ammonia is in the selective refining of lubricating oil.

Tag pyrometers, indicating potentiometer controllers, recorder-controllers, and other recording instruments are the subject of a 16-page booklet obtainable from the C. J. Tagliabue Manufacturing Co., Park and Nostrand Avenues, Brooklyn, N. Y.

Eight bulletins prepared for distribution by the Worthington Pump & Machinery Corp., Harrison, N. J., cover centrifugal boiler-feed pumps, vertical turbine pumps, gas engines, hand-rotated stoppers, Monoblock centrifugal pumps, horizontal duplex steam-pump and receiver sets, vertical vacuum pumps and horizontal dry vacuum pumps.

The Bristol Co. announces Bulletin No. 457, describing Pyrotrol, a safety device for use on gas-fired industrial ovens for protection against pilot-light failure.

How white lead may be used for lubricating certain types of heavy machinery and for sealing pipe joints is told in the latest number of the Dutch Boy Quarterly, published by the National Lead Co., 111 Broadway, New York.

A metal hose with the flexibility of rubber is described in the summer edition of Inco, published by the International Nickel Co., 67 Wall Street, New York.

Toncan Topics, published by the Republic Steel Corp., Cleveland, Ohio, discusses "The Why Wherefore and How of Salt-Water Corrosion."

Pacific Coast oil-field scenes showing Wiggins pontoon tank-roofs appear in the summer issue of the Watch Tower, published by the Chicago Bridge and Iron Works, Old Colony Building, Chicago.

The Continental Supply Co., Dallas, Tex., has for distribution a bulletin describing and illustrating the Continental-Falk twin-crank geared pumping unit.

A bulletin giving information about the Koalt tube-caliper for refinery use in quick indication of tubes that are dangerously thin may be obtained by addressing the Koalt Engineering Co., 533 Mayo Building, Tulsa.

"Lowering Piping Costs With Shielded-Arc Welding" is the title of a 12-page illustrated booklet sent on request by the Lincoln Electric Co., Cleveland, Ohio.

The July number of Monsanto Current Events, published by the Monsanto Chemical Co., St. Louis, Mo., contains articles of interest to the oil as well as the chemical trade.

Kellogg Masterflex piping, described as affording maximum flexibility with safety, is the subject of a 4-page bulletin mailed on application by the M. W. Kellogg Co., Jersey City, N. J.

King Is Special Representative for Taubman Supply Corp.

P. R. King, appointed special representative of the Taubman Supply Corp., Tulsa, was for almost

P. R. KING

seven years representative of the Republic Supply Co., covering Kansas and Oklahoma territory. During the year just prior to his joining the Taubman organization, he was division sales manager for the Portable Rig Co. of Houston, Tex., with headquarters in Tulsa. Practically all Mr. King's life has been spent in the oil fields. His boyhood was passed on a lease near Ochelata, Okla. After graduating from high school, he attended the University of Missouri, then going back to the oil fields.

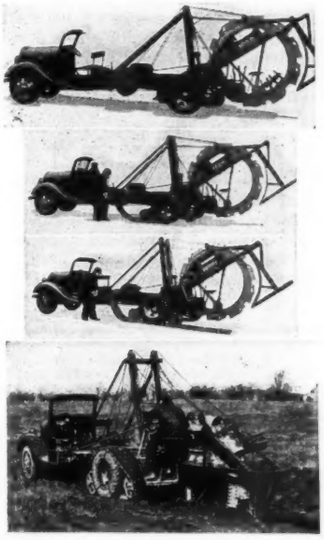
BETHLEHEM'S NEW CONTINUOUS STRIP-SHEET MILL

New continuous strip-sheet mill built by Bethlehem Steel Co., Lackawanna, N. Y., as viewed from the air. The buildings contain 22 acres of floor space and have complete facilities for both hot and cold rolling of strip and sheets and for continuous processing of strip and sheet material. This is the largest single enterprise undertaken by the Bethlehem Steel Co. in rounding out its facilities in the producing of consumers goods and cost over $22,000,000. The new mill was opened June 30, 1936.

Wide Range of Service Offered in Digging Small Ditches

The model 16 utility ditcher, built by the Buckeye Traction Ditcher Co., Findlay, Ohio, has a wide range of service in small-trench digging. It is used in gas- and oil-line service, gathering-line, general farm and tile ditching, or any work requiring a small trench. Mounted on a standard truck chassis, the ditcher can be moved rapidly from one location to another at regular road speeds. The truck-motor furnishes the power for the ditching mechanism through a special transmission. The motor is supplied with an oversize radiator for better cooling facilities.

Buckeye "alligator" crawlers are applied direct to the dual rear wheels. Small detachable idler wheels in front and behind the rear wheels



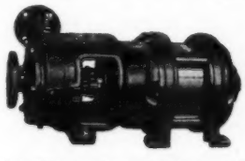
increase the crawler area, thereby enabling the ditcher to work on soft ground. These "alligator" traction wheels may be put on or taken off and conveniently stowed away in approximately 20 minutes, according to the manufacturer. These machines have a maximum cutting depth of 4 feet 6 inches, cutting width of 9¼ inches to 16½ inches, and digging speeds of 1.45 feet to 15.85 feet per minute, a definite place in the type of work requiring small trench.

Arrow Company Reorganized

The Arrow Tool & Supply Co., with headquarters in Pearsall, Tex., has been reorganized and the name changed to Arrow Supply Co. Headquarters are now in the Fort Worth National Bank Building, Fort Worth, Tex. Charles A. Little, formerly district manager for the Atlas Supply Co. in charge of sales in Fort Worth, Dallas and Houston, resigned that position to become president of the new Arrow company. Ed Sullivan, formerly with the Frick-Reid Supply Co. in Hobbs, N. M., is vice president and in charge of the new store opened in Monument, N. M. Herbert Covault is secretary and treasurer.

General-Service Motor-Driven Centrifugal Pump Developed

Designed for general-service pumping where small space and low weight are essential, Figure 3,620 motor-driven centrifugal pumps offered by Goulds Pumps, Inc., Seneca Falls, N. Y., are available in standard and special constructions for the handling of ordinary and corrosive industrial liquids. Fifteen sizes meet all capacity requirements from 5 to 1,600 g.p.m. The combining of pump and motor in a single unit permits marked reductions in overall dimensions and weight without sacrificing strength or durability. The substantial construction of the pump throughout and the mounting of all moving parts on a single oversized shaft, running in heavy-duty ball bearings to eliminate friction and wear, assure alignment, eliminate vibration and permit operation of the pump in any position. Impellers, designed for high pumping efficiency, are of the enclosed single-suction type with safe motor-load characteristics, mechanically and hydraulically balanced, and are securely keyed and locked to the shaft.



Antifrictional Plastic Packing Is Available in Six Forms

Super-Seal, a general all-service plastic packing with a new antifrictional, dry-graphite lubrication is announced by the Crane Packing Co., 1815 R Cuyler Avenue, Chicago. Tests are said to have shown that this product provides a permanent antifrictional seal. It is resilient and there is no tendency to harden or dry out. It flows readily under gland pressure, which makes it easy to adapt to smaller or larger packing spaces.

Super-Seal is composed basically of extremely fine particles of a new alloy. The high-temperature binder covers and saturates each particle of alloy and each strand of long-fiber asbestos. It contains the purest flake graphite and is processed for even distribution and resistance to high temperatures. This is said to assure that while there is any packing in the box there is perfect dry-graphite lubrication at the wearing face of the packing.

This antifrictional plastic packing is engineered for all-round packing service in refineries, power plants, chemical plants and industrial works of all kinds. It is put up in six convenient forms: Valve-stem (round), spiral (rectangular), coil (square), bulk (for emergency use), ring (split), and production sets (endless).

Industrial uses of Red-Ball 24-hour cement are discussed in an 8-page bulletin procurable from the Missouri Portland Cement Co.

Alco's Business and Plant Are Purchased by H. C. Smith

The H. C. Smith Oil Tool Co. announces the purchase of the business and manufacturing plant of the Alco Tool Co. in Compton, Calif. This

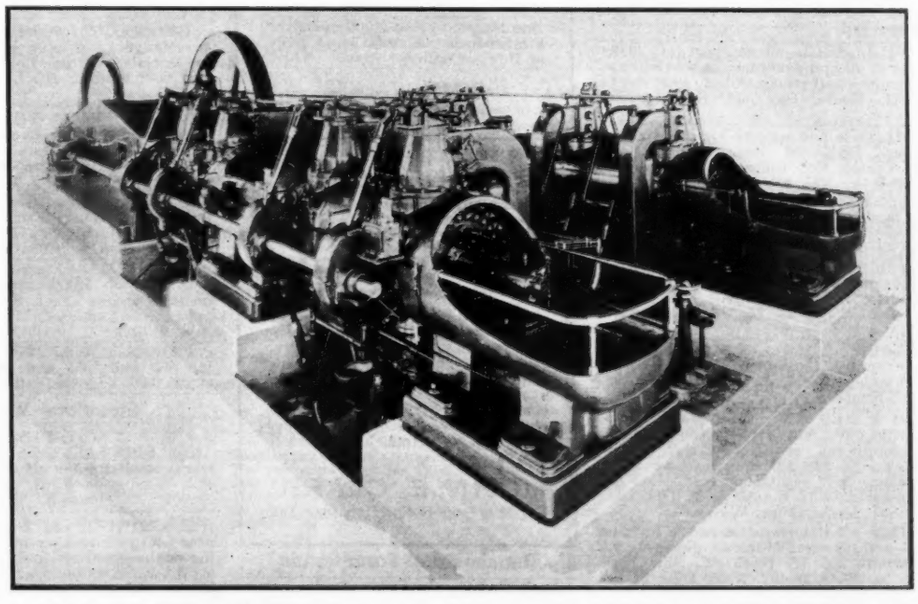
plant covers more than 2½ acres and consists of two wings, 300x80 feet and 400x80 feet, with a two-story general office building in front. Since this deal was consummated early in May the plant has undergone a complete renovation, and modern heavy-duty machines have been added to increase materially the facilities for the manufacture of oil tools.

H. C. Smith founded the H. C. Smith Manufacturing Co., Whittier, Calif., which developed H. C. Smith coring equipment, drilling-bits, and rotary underreamers. His present organization is introducing to the oil industry a new line of rotary drilling and coring tools.

Roberts Made Manager

Chester J. Roberts has been made manager of the Milwaukee, Wis., branch of the Four Wheel Drive Auto Co. Mr. Roberts, who has been with FWD since March, 1935, was for six years manager of the industries and trade promotion divisions of the Milwaukee Association of Commerce.

PLANT WILL SEND DRY GAS DIRECT TO MARKET



Eight Cooper-Bessemer 1,000-h.p. compressor units of this type are to be used in the Warren-United Gas plant

One of the world's largest gasoline plants is being erected by the Warren Petroleum Co. and the United Gas Public Service Co. in the new Rodessa field, Caddo Parish, Louisiana. Eight large Cooper-Bessemer compressor units will be installed, to compress the United Gas Public Service Co.'s wet gas, remove the gasoline, and then boost the dry gas to 450 pounds and send it into the utility's line. The compressor units are standard "Type 22's," each rated 1,000 horsepower. They are four-cycle, twin-tandem, gas-engine-driven machines.

An unusual feature of this project, apart from its large size, is the sending of dry gas direct to market instead of recirculating it or using it for field operations.

Appointed Assistant Secretary

JOHN S. SHEFFIELD

The appointment of John S. Sheffield to the position of assistant secretary of the associated Arkansas Natural Gas Companies was announced last week by D. W. Harris, vice president of Arkansas Natural Gas Corp. Mr. Sheffield came to Shreveport from Bartlesville, Okla., in 1928 and has been associated with the Doherty interests since 1924. He is a graduate of Texas A. & M.

An engineer by training, Mr. Sheffield served in that capacity until coming to Shreveport, where he entered the statistical department. In July, 1932, he was appointed chief accountant, the capacity he has served in since.

Building 12 Tankers

Twelve new tankers, ten of them large vessels for intercoastal trade, are building in American shipyards, according to the July 1 report of the American Bureau of Shipping published July 6. Of the 10 large tankers in the list, only 1, a 9,600-gross-ton vessel building at the Sun shipyards at Chester, Pa., for the Sun Oil Co., is to be diesel-driven. The turbine tankers are: Two 7,070-ton ships, building at the Bethlehem Sparrows Point (Maryland) yards for the Gulf Oil Corp.; two 7,225-tonners at the Federal yards, Kearny, N. J., for the Pan-American Petroleum & Transport Co., and five building at the Sun yards, viz: Two for Pan-American, of 9,650 gross tons; two for Socony-Vacuum Oil Co., 9,650 tons, and one for Atlantic Refining Co., 11,400 gross tons. The other two oil carriers are small coastal carriers; a 695-ton craft building by the Hathaway yards, Fairhaven, Mass., for Luzo Petroleum Transport Co., and a 100-tonner by United Shipyards, Inc., Brooklyn, for the River Oil Transportation Co. The only wood high-seas construction reported under way are two diesel tuna clippers building at San Diego; a 130-footer building by the Campbell Machine Co., and a 102-footer by the San Diego Marine Construction Co.

Taken Out of Receivership

WILMINGTON, Del., July 18.—Petroleum Conversion Corp. was taken out of receivership recently when Chancellor J. O. Wolcott, in Chancery Court, discharged the receivers after the corporation had been in receivership for three years. Claims amounting to $547,500 have been paid by the receivers with proceeds from the sale of 600,000 shares of preferred stock.

The company is the owner of the T.V.P. cracking process and it is expanding into European oil refining fields. Plants are now under construction in France and Germany and another unit is being installed in the Muskegon refinery of Old Dutch Refining Co.

Jan Willem Jacobus, Baron van Steenwyk, a member of the senate of Holland, has been appointed to represent European interests on the directorate of Roxana Petroleum, Ltd., of Calgary, Alberta. Senator Jacobus is planning a trip to Alberta this summer.

CLASSIFIED ADVERTISING

Leases—Production

I OWN 700 acre oil and gas lease adjoining big block of Humble Oil and Refining Co. in Atascosa County, Texas. Will sell all or part. L. G. Stovall, 1040 Fulton Ave., San Antonio, Texas.

¼ int. 200 a. proven Kentucky lease & well to be drilled 750' Jet sand. Sweet oil 40 grav. Geology very best. $1,500. F. M. Pierson, P. O. Drawer 748, Terre Haute, Ind.

WILL SELL all or part of 20,000 acres of oil and gas leases in south Texas. Large or small tracts. Advise your needs. H. H. White, Box 674, San Antonio, Texas.

OIL lease and royalty for sale by land owner. SE¼ of Sec. 19-10S-R47W, Kit Carson Co., Colorado. E½ Section 23-2S-R44; N½ N½ Section 26-2S-R44 in Yuma Co., Colorado. This is the closest land to the I.T.I.O. well—3 miles. Box 343, Goodland, Kansas.

FOR SALE—192.65 acres deeded land with full mineral rights unleased in Unit 8 four miles from discovery well Baker-Glendive field in Montana. Will sell all or part. Write M. H. Derby, Bowman, N. D.

BLOCK of Leases on sure side of big oil structure. Drill near. Depth seven to eight hundred feet. J. D. Irwin, Mintonville, Kentucky.

294 ACRES, 8 Big Injun wells, in Sistersville, W. Va. repressuring district, completely equipped, 8 steel rigs, 7 good gas engines, $16,000 equipment on lease, price one half equipment cost, ideal for repressuring with gas. C. L. M. OIL CO., Box 827, Parkersburg, W. Va.

FIRM offerings wanted in the Phillips L General Lease. Wire or phone Louis Bernstein, 255 W. 108th St., New York City. Academy 2-4492. Price must be below the market.

LANDS. Leases. Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

FOR SALE oil and gas leases, drilling contracts and settled production in shallow territory. W. P. HARLEY, Bowling Green, Kentucky.

LEASES, good West Va. structure, seven producing sands, near new seismograph locations, deep sand tests of majors, 20,000 acres. Box 827, Parkersburg, West Virginia.

Leases—Production

SHELBY COUNTY at last has a producing well. Several tests now going down. This County has been worked out and approved by best geologists. Have 1,000 acres on structure for drilling contract. Small bonus. C. A. Parker, Box 451, Center, Texas.

FOR SALE

One lease covering 2,000 acres well located near well now being drilled in Bowie County.

ELMO WALKER
Little Rock, Arkansas

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

SAN AUGUSTINE
Near East Texas Field

Major Company play breaking in San Augustine. The county never having had a deep test. Now rigging up for 4000 foot Woodbine sand test. 40's-80's-120's favorably located at $10 per acre, straight commercial lease. Structure and location by Chief Geologist for major company. Immediate investigation necessary.

JOHN E. CLARK
414 Esperson Bldg., Houston, Tex.

Ranches and Farm Lands

FOR SALE—By owner. Dallas suburban acreage, 175 beautiful acres, 160 in cultivation, 15 meadow. Living spring and branch. Preston road district. Close to S.M.U. and Highland Park. A fine country estate and ready for sub-division. Paved roads and streets. Will double in value in 3 years. Call on or address J. M. Slattery, Baker Hotel, Dallas, Tex.

Mailing Lists

OF ROYALTY investors by deed, guaranteed. Also list Brokers by States. Oil Industry Mailing List Co., Tulsa Loan Building, Tulsa, Oklahoma.

Financing

JAMES E. MILLER, 604 W. Seventh St., Tulsa, Okla., will aid in financial marketing problems. Fee basis.

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis. John Morris, Box 5411, Philadelphia, Pa.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

MAIL, OFFICE, TELEPHONE service for manufacturers to the oil industry. In business 8 years. Business Service Exchange, Tulsa Loan Building, Tulsa.

HAVE 160 acres, or about 5 million yds. Placer ground. Tests 73c per yd. Can put in operation 1,200 yds. per day for $6,000.00. Write W. L. Andrews, 406 16th St. Denver, Colorado.

WANTED—Financial assistance to drill well on 1,000 acres, on structure. Young County, Texas. Strictly cost basis, references furnished. P. O. Box 1903, Fort Worth.

PARTNER WANTED to finance drilling 500 foot lime and sand oil acreage. O. W. Gray, Cross Plains, Texas.

Situations Wanted

OIL FIELD
SPECIALTY SALESMAN
wants specialty for all or part of Texas.
Address P. O. Box 421,
Houston, Texas.

MACHINIST and Gas Engine Engineer—Experienced on pumping and drilling engines, pumps, and industrial equipment, wants permanent connection with large production or supply company in Kansas or Oklahoma for shop and field service. Address Box H-363, The Oil and Gas Journal, Tulsa, Oklahoma.

EXPERIENCED accountant, experience in income tax matters and estate, desires position with individual or estate. 40 years of age, married, now employed. Address Box H-361, The Oil and Gas Journal, Tulsa, Oklahoma.

ACCOUNTANT, Experienced Material, General Office, Lease Record, Utility Man, A-1 reference. c/o Rt. 8, Box 715-A, Tulsa, Okla.

Situations Wanted

ACCOUNTANT; 15 years' experience oil, gas, refinery and pipe line general and cost accounting; Federal and State Income Taxes; Advalorem Taxes. Best reference; salary a secondary consideration. Will locate anywhere. P. O. Box 684, Tulsa, Oklahoma.

EXPERIENCED young man desires connection with oil or supply company as purchasing agent or assistant. Address Box H-374, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

WANTED—Graduate Engineer to develop and maintain standards of efficiency in production and consumption of utilities in large mid-western refinery. Thorough knowledge of refinery practice essential since coordination of processing with fuel production and utilities consumption is definite prerequisite to development of standards. Applicant must have good personality, ability to cooperate with supervisors and sufficient initiative to develop and execute improvements leading to operating economies. Reply giving detailed particulars concerning education and experience, also give telephone number. Address Box H-362, The Oil and Gas Journal, Tulsa, Oklahoma.

SALES ENGINEER

A long established engineering and contracting concern requires a sales engineering representative for its New York office. Representative wanted is one with a successful sales record, who has a wide acquaintance among personnel of petroleum refining companies and who is familiar with the latest petroleum process design. Address Box H-371, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED: Asphalt Chemist experienced in asphalts for road and industrial purposes. Ability to match specifications, run control tests, and conduct moderate research necessary. Experience in emulsions desirable but not essential. Address Box H-375, The Oil and Gas Journal, 415 Lexington Ave., New York, N. Y.

COMPETENT hard rock drillers for portable machines to work in Wisconsin and Illinois. Apply Gray Well Drilling Co., 160 N. LaSalle St., Chicago, Illinois.

PRESSURE VESSELS, GASOLINE TOWERS

2—Hammerweld pressure vessels 10′ diameter x 47′ x 53′ overall length, 1″ Walls, 1⅛″ head, bottle neck, 18″ flanged opening, tested 300 lbs. Have never been in hot oil service and are in excellent condition.

2—Gasoline Towers, 5′ in diameter by approximately 65′ high x ⅝″ steel, riveted and welded with each rivet weld, specially built for cracking purposes. Complete with cleanout manhole, ladders and walkways.

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Main Office—1446 Guinotte Ave., Kansas City, Mo.

Branches

Sapulpa, Okla. Arkansas City, Kans. Pyote, Texas

Steel Storage Tanks

We will erect latest type 55,000 bbl. all steel storage tanks at a great saving.

Over 500 tanks on hands from 500 bbls. to 80,000 bbls. Ready for delivery. 50—55,000 Bbl. tanks now being cut down, Haynesville, La. These tanks all built new 1924 and are extra heavy, weighing 20 tons more than standard tank.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION

64 North Second St. Kansas City, Kansas

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.

26 West 2nd St. Cincinnati, Ohio

125,000 feet 8′

29 lb. Standard 8 thread line pipe

A-1 Shape ready for shipment

F.O.B. Cars, Robinson, Illinois.

Inquiries Solicited.

Robinson Pipe Line Contracting Co., Inc.

Robinson, Illinois.

FOR SALE—Small refinery one hundred fifty barrels per day capacity, connected by small pipe line to isolated production, thirty-nine gravity sweet crude, bought under posted price. Reason for selling owner needs all attention for other business. Price and investment reasonable. Address Southern Refiners, c/o The Oil and Gas Journal. Tulsa, Oklahoma.

NOTICE—OIL FIELD OPERATORS

Latest thing out for drill stem test for oil and gas, fully covered and protected by patent. Tools for sale or lease. Call, write or wire E. H. Cox, Leedey, Okla.

SEVERAL USED ROTARY RIGS

Spudders and Drilling Machines.

Several Steel Derricks & Rotary Equip.

J. S. Daniel, Beacon Bldg., Tulsa.

PULL ROD BLOCKS

$40 per thousand

J. A. Birdsong

620 North Steuben, Chanute, Kansas.

3—300 Amp. Lincoln Buda engine driven welders. 3—200 and 300 Amp. Electric motor driven welders. Overhauled, fine operating condition. Sell reasonable. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

WRECKING White Star Refinery, Wood River, Ill. complete refinery, Dubbs plant. 41 tanks excellent condition. Barker Goldman Lubin Co., Springfield, Ill.

For Sale

FOR SALE OR RENT: Complete absorption gasoline plant, near Tulsa, with Newton Gasoline equipment, including two absorbers, heat exchange, one still, three pumps, three storage tanks, three boilers, cooling tower and all other tools and equipment usually necessary in operation of a plant. Write: P. O. Box 2300, Tulsa, Oklahoma, or call 4-6181.

Patent Attorneys

REGISTERED PATENT ATTORNEYS

United States and Canada

Before disclosing your invention to anyone, send for blank form:

"Evidence of Conception."

Instructions "How to Establish Your Rights" and complete information FREE!

LANCASTER, ALLWINE & ROMMEL

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Washington, D. C.

Petroleum Eng. Laboratories

GEOLOGIC STANDARDS COMPANY

1600 East 5th Place, Tulsa, Oklahoma.

Porosity-Permeability-Saturation Tests.

Natural Gas Wanted

WE ARE in the market for a minimum of twenty-five million feet of natural gas per day. Desire large reserve to insure this volume. Give price per thousand feet and full particulars. Address Box H-373. The Oil and Gas Journal, Tulsa, Oklahoma.

For Sale—Maps

Oilfield and County Ownership Maps. New price list on request. Send $1.00 for map of Texas and eastern New Mexico.

ZINGERY OIL MAP CO.

Fair Bldg. Fort Worth, Texas

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY

Paul Brown Bldg., St. Louis, Mo.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

JOIN ME in the oil business in Texas! Many opportunities. Have bargains in Royalty, production, oil payments, in Texas-Louisiana, 2-3-4 year payouts. Tom Skaggs, Box 53, Midland, Texas.

OKLAHOMA CITY AND FITTS

Royalties Quoted Dealers

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Perrine Bldg., Oklahoma City, Okla.

Producing and Non-Producing Royalties. Bosco, Van, Rodessa, West Texas.

Wholesale — Retail.

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VAN POOL — EAST TEXAS

Bought — Sold — Wholesale.

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Gasoline, Run Down and Pressure Tanks.

Pumps, all kinds and sizes, condenser boxes, agitators, pipe stills, everything needed for refinery requirements. Complete line of valves and fittings, Oakite treated and tested.

W. C. Berry Wire—Phone—Write H. J. Galamba

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64 North Second St. Kansas City, Kansas

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⅛″ to ½″ thicknesses in 5′ x 10′ or 5′ x 15′ sizes, guaranteed like new, any quantity for immediate shipment, 60,000 tons on hand.

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64 North Second St., Kansas City, Kan. Mayo Hotel, Room J, Tulsa, Oklahoma P. O. Box 868, Cincinnati, Ohio

Royalties—Production

Producing-ROYALTIES-Non-Producing

Dealers Exclusively

Schedules and Engineers reports furnished

G. D. TERRIEN

412-13 Central Bank Bldg., Tulsa, Okla.

PRIME POTENTIAL ROYALTIES under and/or offsetting drilling wells. Wholesale exlusively. L. E. MORENCY, Hunt Building, Tulsa, Oklahoma.

PRODUCING OIL ROYALTIES

for dealers.

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842 Kennedy Bldg., Tulsa, Okla.

I BUY AND SELL oil royalties and producing wells, East Texas field. B. A. SKIPPER, Longview, Texas.

FOR SALE—Half Royalty on 2 sections Andrews Co., 8 miles N.W. Fuhrman wells. Leased to major company, good geology. 802 Florida St., Amarillo, Texas.

Royalties—Production

Van—East Texas—Louisiana Royalties Bought—Sold.

WILLIAM MONROE LAYTON

40 Wall St., Suite 1437, New York City.

F. A. SANSOME

Maintains a Complete Trading Organization for Brokers, Banks and Dealers

In

Oil Royalties.

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PRODUCING OIL ROYALTIES

15 years of experience.

L. H. WITWER

214 Kennedy Bldg., Tulsa, Okla.

ANDREW J. BARRETT

The Philtower

Tulsa, Oklahoma.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood. P. O. Box 2261. Tulsa, Oklahoma.

1,000 BBL. offset Royalty in the prolific Oxford, Kan. area. $275.00 per Royalty acre for immediate acceptance only. Address Box H-372, The Oil and Gas Journal. Tulsa, Oklahoma.

GULF-GOLDSMITH ROYALTY under 31 Sections Ector County, Texas. Will sell at highest bid, above cost $3500. 1/640th interest (one royalty acre under each Section). Royalty checks paid by trustee. Address Box H-350, The Oil and Gas Journal, Tulsa, Okla.

700 ROYALTY acres in 5,000 acre spread covering 4 undeveloped Salt Domes located in South Louisiana, all leased and selected by Major company. From fee owner price $50.00 base for Mineral rights or $40.00 base for Royalty. No brokers. Address Box H-370, The Oil and Gas Journal. Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS

Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

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Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
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1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

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Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.25*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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July

31—Dallas, Tex., Interstate Oil Compact Commission meeting.

August

11-16—Mount Pleasant, Mich., Michigan Oil & Gas Exposition.

September

7-12—Washington, D. C., World Power fuel conference.

7-12—Pittsburgh, Pa., American Chemical Society, semiannual meeting.

9-10—Louisville, Ky., Kentucky Petroleum Marketers Association.

16-17—Cincinnati, Ohio, Ohio Petroleum Marketers Association, fall conference and golf tournament, Netherland-Plaza Hotel.

16-18—Atlantic City, N. J., National Petroleum Association, 34th annual meeting, Hotel Traymore.

?—Tulsa or Oklahoma City, American Petroleum Institute, Division of Production, Mid-Continent district.

October

6-9—Richmond, Va., North American Gas Tax Conference.

12-13—Chicago, National Association of Lubricating Grease Manufacturers, Stevens Hotel.

21-22—Indianapolis, Ind., Indiana Independent Petroleum Association, fall convention, Hotel Severin.

November

9-12—Chicago, American Petroleum Institute, 17th annual meeting, Stevens Hotel.

November-December

30-Dec. 1—Oklahoma City, Okla., Independent Petroleum Association, Biltmore Hotel, annual meeting.